

25<sup>th</sup>

ANNIVERSARY

OF THE

ESTABLISHMENT OF THE

CATALOGUE



*Dean Strickland with Mr. "Bob" Hope at the 1975 commencement exercises marking the twenty-fifth anniversary of the Graduate School.*

# Bulletin of the University of Scranton

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Number 7

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## The Graduate School

For Men and Women

**Scranton, Pennsylvania 18510**

**Phone: (717) 347-3321**

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Associate Professor of

Business Administration (1968)

B.S., University of Scranton;

M.B.A., Doctoral Studies,

New York University

John S. Flanagan (1974)

L Colonel, U.S. Army - Ret.

Actng Vice President for Business

and Management (1974); Lecturer in

Business Administration (1974)

B.A., College of William and Mary;

M.S., University of Alabama

Robert T. Ryder, D. Et U. (1946)

Treasurer (1974) / Comptroller (1949)

Lecturer in Accounting (1963)

B.S., M.B.A., University of Scranton

John R. Gavigan, D. Et U. (1950)

Director of Student Personnel (1972)

A.B., University of Scranton

John J. Fitzpatrick, S.J. (1965)

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M.S., University of Scranton

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Director of Development, Public

Relations and Alumni (1972)

B.S., University of Scranton

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Director of Planning and Grants (1974)

Associate Professor of Economics (1974)

A.B., M.A., Ph.L., Boston College

M.B.A., New York University

Doctoral Studies, Cornell University

John J. Baldi, D. Et U. (1948)

Director of University Research

and Analysis (1964)

Professor of Sociology (1968)

A.B., M.S.S.W., Boston College

Advanced Curriculum Certificate,

University of Pennsylvania

Joseph M. Cannon (1959)

Director of The Counseling Center (1968)

Professor of Education (1974)

B.S., University of Scranton

M.Ed., Pennsylvania State University

Doctoral Studies, Pennsylvania

State University

Licensed Psychologist (1973)

Marilyn Coar, D. Et U. (1948)

Executive Assistant to President (1971)

A.B., Rosemont College

Michael M. Costello (1972)

Director of News Bureau (1972)

B.S., University of Scranton

M.A., Ohio University

M.B.A., University of Scranton

Robert J. Burke (1961)

Director of Personnel Services (1974)

B.S., University of Scranton

## Professional Staff and Services (cont'd)

- Doris M. Edsell (1960)  
Data Processing Supervisor (1975)
- Alan M. Evans (1974)  
Accountant  
B.S., University of Scranton
- Gloria Gavin (1972)  
Nurse  
R.N., Mercy Hospital, Scranton, Pa.
- Mary Hyland (1951)  
Assistant Registrar for Graduate School (1961)
- Walter J. Kanavy (1974)  
Director of Computer Center  
A.B., M.B.A., University of Scranton
- Louis C. Kleff, S.J., D. Et U. (1953)  
Director of Physical Facilities and Plant Development (1974)  
A.B., M.A., Woodstock College
- Kathleen R. Kopcik (1972)  
Counselor, The Counseling Center  
B.A., Marywood (1967)  
M.S., The University of Scranton (1974)
- John W. Lange, S.J. (1964-66; 1974)  
Counselor (1975)  
A.B., Bellarmine College  
M.S., University of Scranton
- Martin L. Langan (1974)  
Director of Central Services (1975)  
B.S., University of Scranton
- Zim E. Lawhon (1964)  
Colonel, U.S. Army - Ret.  
Professor of Military Science (1964)  
Registrar (1970)  
A.B., M.S., Princeton University
- James Leach (1973)  
Admissions Counselor (1973)  
B.S., University of Scranton
- Bernard R. McIlhenny, S.J. (1966)  
Director of Admissions (1966)  
A.B., M.A., Loyola University, Chicago  
S.T.B., Woodstock College
- Marianne McTighe, D. Et U. (1946)  
Librarian (1956)  
Associate Professor (1970)  
B.S., M.A., Marywood College
- John A. Miles (1975)  
Programming and Systems Manager (1975)
- Edward J. Miller (1970)  
Director of Career Services (1974)  
B.S., M.A., University of Scranton
- Grace U. Miller (1969)  
Assistant Director of Career Services (1974)
- Jean A. Moon (1974)  
Systems and Programming Manager  
B.S., Birmingham-Southern College
- Lawrence J. Morton (1969)  
Dean of Students (1974)  
A.B., St. Bonaventure University  
M.S., Syracuse University  
M.Ed., University of Education
- Alice Murphy (1958)  
Assistant Registrar for Undergraduate Schools (1965)
- John W. O'Boyle (1974)  
Admissions Counselor (1974)  
B.S., University of Scranton
- Frank J. O'Hara, D. Et U. (1925)  
Moderator, Alumni Society (1970)  
A.B., LL.D., University of Scranton  
M.A., LaSalle College
- Frank D. Parker (1969)  
Assistant Director of Computer Center (1969)  
B.S., University of Scranton
- J. Frank Reddington, D. Et U. (1940)  
College Physician (1940)  
A.B., Holy Cross College  
M.D., Georgetown University
- Frank W. Shutkufski (1966)  
Superintendent of Buildings and Grounds (1969)
- Joseph M. Tierney (1964)  
Director of Financial Aid (1964)  
A.B., University of Scranton
- Gary N. Wodder (1974)  
Director of Athletics (1974)  
Assistant Professor, Chairman, Department of Physical Education (1974)  
B.S., M.A., Ph.D., Northwestern University
- Gary S. Zampano (1974)  
Assistant Superintendent of Buildings and Grounds/Management Analyst/Purchasing (1975)  
B.S., University of Scranton

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*Vice President for Business Affairs*

# UNIVERSITY OF SCRANTON GRADUATE SCHOOL

## CALENDAR FOR FALL - 1975

|                              |   |
|------------------------------|---|
| September 3, 4.....          | Registration  |
| September 3.....             | Classes Begin   |
| September 13.....            | Final day for change of course<br>and late registration                         |
| October 11.....              | Comprehensive Examinations  |
| October 18.....              | Last day for submission of Graduate<br>Thesis and Scholarly Paper (Final Draft) |
| November 1.....              | Holiday - Classes Scheduled   |
| November 26, 27, 28, 29..... | Thanksgiving Holidays   |
| December 8.....              | Holiday - No Classes*   |
| December 15 - 20.....        | Semester Examinations   |
| December 20.....             | Semester Ends   |
|                              | *Also Dean's Birthday   |

## CALENDAR FOR INTERSESSION - 1976

|                 |                       |
|-----------------|-----------------------|
| January 5.....  | Registration          |
| January 5.....  | Classes Begin         |
| February 6..... | Semester Examinations |

## CALENDAR FOR SPRING - 1976

|                    |   |
|--------------------|---|
| February 9.....    | Registration  |
| February 9.....    | Classes Begin   |
| February 16.....   | Washington's Birthday - Classes Scheduled                                       |
| February 21.....   | Final Day for late registration and<br>change of course.                        |
| March 13.....      | Comprehensive Examinations  |
| March 21.....      | Last day for submission of Graduate<br>Thesis and Scholarly Paper (Final Draft) |
| April 15 - 20..... | Easter Holidays   |
| May 15 - 20.....   | Semester Examinations   |
| May 20.....        | Semester Ends   |
| May 23.....        | Baccalaureate Mass and Commencement   |

## CALENDAR FOR SUMMER - 1976

|                   |  |
|-------------------|--|
| June 21.....      | Registration   |
| June 21.....      | Classes Begin  |
| June 23.....      | Final day for late registration and<br>change of course. |
| July 4 (5).....   | Independence Day - No Classes                            |
| July 30 - 31..... | Semester Examinations                                    |
| July 31.....      | Semester Ends  |

## TENTATIVE CALENDAR FOR FALL - 1976

|                     |                 |
|---------------------|-----------------|
| September 8, 9..... | Registration    |
| September 8.....    | Semester Begins |



**CALENDAR FOR**

**COLLEGE MISERICORDIA**

**AND**

**MARYWOOD COLLEGE**

Please consult Graduate School Office of the respective college.



**GRADUATE SCHOOL ADVISORY COUNCIL**

**Dean's Conference 1975-76**

|                           |   |
|---------------------------|---|
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| Matthew Farrell .....     | <i>Associate Professor of Education and<br/>Director of Correlated Programs</i>                                 |
| John M. McInerney .....   | <i>Associate Professor of English and<br/>Chairman of Department</i>  |
| Eugene A. McGinnis .....  | <i>Professor of Physics and<br/>Chairman of Department</i>  |
| Timothy H. Scully .....   | <i>Professor of History and<br/>Chairman of Department</i>  |
| Joseph A. Szuhay .....    | <i>Professor and Chairman of<br/>Human Resources Department</i>   |
| Joseph R. Zandarski ..... | <i>Professor of Business Administration<br/>and Chairman of Department</i>                                      |
| Kathleen B. O'Gorman*     | <i>Student Representative to<br/>Dean's Conference</i>  |
| Robert F. Russell .....   | <i>Student Representative to<br/>Dean's Conference</i>  |
| Helen Sherwin .....       | <i>Student Representative to<br/>University Senate; President, Graduate<br/>School Student Advisory Council</i> |

\*Graduated - Replacement to be announced

## GENERAL INFORMATION

The University of Scranton, the oldest Catholic institution of higher education in Northeastern Pennsylvania, was founded in 1888 as Saint Thomas College. It is chartered under the laws of the Commonwealth of Pennsylvania and empowered to confer Bachelor's and Master's degrees in the Arts, Sciences, Business Administration and Education. In 1938 Saint Thomas College became the University of Scranton, while four years later the Society of Jesus acquired title from the Catholic Diocese of Scranton and administrative control from the Brothers of the Christian Schools. Thus Scranton became the twenty-fourth of the twenty-eight Jesuit colleges and universities in the United States.

In 1950 graduate study in Education was initiated, the first Master's degree being awarded in June, 1952. Since that time more extensive programs were developed in Elementary Education, Psychology and Guidance, Educational Administration. Through courses at the University's Graduate School several State Certificates may be obtained. A graduate History program was first offered in 1955, while graduate curricula in English and in Business Administration are of 1960 origin. Graduate programs in Chemistry and Physics began in the Fall of 1967.

The University of Scranton Graduate School offers programs of study leading to the following degrees: Master of Business Administration; Master of Arts or Master of Science degree in English, American History and Politics, Chemistry and Physics. In addition a Master of Arts or a Master of Science degree program may be selected in any of the following areas: Elementary and Secondary Education, Elementary and Secondary School Administration, Counselor Education, General Science, Reading, Rehabilitation Counseling and Vocational Adjustment. A program of study can be developed by the student correlating a M.S. program in Secondary Education with Art, Business, English, History, Mathematics, Music, Reading, General Science, Chemistry, Physics, and Social Studies.

Students in the M.A. program in History and English have the option of a thesis or non-thesis program; those in the M.A. program in Education, Chemistry and Physics are required to complete a thesis.

### OBJECTIVES

As one of the family of world wide Jesuit Colleges and Universities, the University of Scranton shares with them a common educational heritage and tradition. Its principal objective, therefore, is: to lead the student to understand and to inspire him to fulfill that

complex of dignities and responsibilities which Man is, as a person and as a member of human society, under God.

Specifically, as the university in this community, the University of Scranton labors to prepare its students to be thoughtful, active, effective citizens with a developed sense of leadership and a dedicated spirit of community service in the arts and professions.

More particularly, the Graduate School of this University aims 1) to communicate, interpret, intensify and integrate academic knowledge and relationships; 2) to develop professional attitudes, skills and competence in the student's chosen area of concentration; 3) to foster those value judgments so basic to human life and education—values which flow not only from a given discipline but also from Christian revelation and the Judaeo-Graeco-Roman, Western moral and intellectual tradition; 4) to promote research.

### **ORGANIZATION AND LOCATION**

The administration and supervision of the Graduate School is the responsibility of the Dean of the Graduate School. He is assisted by a Graduate Advisory Committee, of which he is chairman. All questions concerning admission, candidacy and comprehensive examinations or modifications of course programs, must be submitted in writing to the Dean of the Graduate School. Decisions of the Dean of the Graduate School and his Advisory Committee are final.

Requests for admission, transcript, letters to interested parties, and data concerning academic records should be made to the Graduate Office, University of Scranton.

The office of the Dean of the Graduate School is Room 310, St. Thomas Hall, Monroe & Linden Street. The office is open daily from 8:30 a.m. to 4:30 p.m. Monday through Friday. When classes are in session it is also open in the evenings and on Saturday mornings. **FOR STUDENTS WHO WISH TO CONSULT THE DEAN THE COURTESY OF CALLING FOR AN APPOINTMENT IS RECOMMENDED.**

There are three regular semesters of graduate courses: Fall, Spring and Summer. Fall and Spring graduate courses are taught each evening, except Friday, at Monroe & Linden Street from late afternoon to 9:00 P.M. and on Saturdays from 9:00 A.M. to 1:00 P.M. During the Summer term, graduate classes are scheduled Monday through Thursday for six weeks.

An Intersession Program is held between the Fall and Spring Semesters. Please consult the special bulletin issued in December regarding the details of this session.

Graduate courses in the M.B.A. program are usually taught at O'Hara Hall, Linden St. and Jefferson Avenue.

Time schedules for each course appear in the special bulletins published four times each year for Fall, Interession, Spring and Summer programs, and can be obtained at the Graduate School Office.

### **COLLEGE MISERICORDIA**

According to a cooperative agreement for graduate programs, the University of Scranton Graduate School and College Misericordia, Dallas, Pa., will offer several courses during the Summer, Fall and Spring Semesters on the campus of College Misericordia. During all sessions, classes will be conducted on the same time schedule as the U. of S.

Application for admission to graduate study must be made to the University of Scranton. The faculty will be members of the cooperating schools. Credits are granted by the University of Scranton. Up to eighteen credits toward the M.A. or M.S. degrees may be acquired at College Misericordia while the remaining credits must be obtained at the University of Scranton. Charges at the cooperating schools are identical. So also are the candidacy and comprehensive examinations, course numbering, content and credits, curriculum and departmental requirements. Courses at both Scranton and Dallas are open to men and women.

### **MARYWOOD COLLEGE**

Through a cooperative arrangement with Marywood College, graduate students at the University of Scranton who wish may enroll in graduate courses offered at Marywood College. Students should consult with their mentors regarding details and to secure their written permission before registering for such courses. Registration for said courses will be handled by the staff of Marywood College.

The University has also joined Marywood College in the formation of a Consortium for Educational Field Services. The purpose of this endeavor is to develop and offer specially designed non-credit and credit courses directed toward the professional development of educators and administrators, and the general public in the geographical area of Northeastern Pennsylvania served by the two schools. Interested parties should consult either the Dean of the Graduate School, University of Scranton or the Director of Programs for Adult and Continuing Education (PACE), Marywood College.

### **APPLICATIONS**

All planning to enter the Graduate School should contact the Graduate Office for an application form. Completed applications, together with transcripts of undergraduate and graduate work taken elsewhere, should be in the Graduate Office two months before the applicant begins graduate study. FOREIGN STUDENTS SHOULD ALLOW AT LEAST THREE MONTHS.

Admissions standards and policy of the University are free of discrimination on grounds of race, color and national origin. The University recognizes both its legal and moral obligations to fulfill the regulations of Title VI of the Civil Rights Act of 1964 and to conform to all applicable laws and regulations.

### **ADMISSION STATUS**

1. *Regular Admission.* Students admitted to graduate study after meeting the general requirements of the Graduate School and those of the Department in which they are to enroll. CLASSIFICATION: DEGREE STUDENT.
2. *Provisional Admission.* Students admitted to graduate study under this category must, in addition to meeting the regular requirements, satisfactorily complete additional conditions before they can be raised to Candidacy status. CLASSIFICATION: DEGREE STUDENT—PROVISIONAL.
3. *Probational Admission.* A student may be admitted on a probational basis under certain circumstances. If admitted, this means that upon completion of nine graduate credit hours, the credentials and the current work of the student are reviewed. At this point it is then determined whether or not the student will be allowed to continue as a degree student. CLASSIFICATION: DEGREE STUDENT—PROBATIONAL.
4. *Special Student.* Students in this category are restricted to graduate study for the following purposes: certification only, transfer of credit, or self-improvement. Students so classified are not considered degree candidates unless the student presents his request to become a degree candidate in writing to the Graduate School and receives subsequently the approval of the Admissions Committee. CLASSIFICATION: SPECIAL STUDENT.

Admission to graduate study, under any circumstances, does not imply admission to candidacy for an advanced degree.

### **ENGLISH LANGUAGE REQUIREMENT—FOREIGN STUDENTS**

Students who are citizens of non-English-speaking countries will be required to complete a review course in English. This course is specifically designed for international students who already possess a working knowledge of the English language. It is not designed for the student who has not had any previous training in the English language.

In addition to a basic English review, the course will familiarize the international student with the technical language necessary for the advanced program in which he has enrolled.

International students who present a TOEFL (Test of English as a Foreign Language) score will be considered for waiver of the

English course requirement. However, this waiver is based on individual interpretation of the TOEFL score, and not on a minimum achieved score.

### **REGISTRATION FOR COURSES**

Registration for each semester will take place according to the schedules listed in the special bulletins which are issued prior to each semester. Mail registration is permitted after the initial acceptance and registration. Registration will be with the approval of a student's mentor or chairman of the department. *A student should not drop or transfer from a course in which he is registered without the approval of his mentor and the Dean.*

In order to facilitate registration for old and new students a period of pre-registration is held each semester. This will extend over a period of about 10 days and all graduate students taking courses during the current semester must register between the announced dates. Those who do not register and have an insufficient excuse will be charged a late registration fee of \$15.

The University reserves the right to withdraw a course from its schedule in which less than ten students have been registered.

Undergraduate students may register for certain graduate courses. However, it is required that they have approval of the appropriate Department Chairman and the permission of the Dean.

### **CANDIDACY**

The student is not considered a candidate for a degree until he fulfills the following requirements:

1. Completes successfully at least nine semester hours of course credit at the University of Scranton.
2. Files a formal application for degree candidacy with the Dean.
3. Is approved by the department in the field of his major concentration according to departmental norms.

### **MENTORS**

From the inception of graduate study, students will be assigned a mentor to help them formulate a program of studies and supervise their work. It is suggested that students work closely with their mentors and that the courtesy of arranging appointments in advance with faculty members so designated be observed by all students.

### **GRADES**

Achievement of Graduate Students is recorded as *A—excellent; B+—superior; B—good; C—fair but passing; F—failure*. To insure qualitative standards, ordinarily, a student incurring 4 "C"s or 3 "C"s and an "F" ceases to be a candidate for a degree but may continue to

take courses for information, self-improvement or credit. A student who fails any two courses will be automatically dismissed and so notified by mail.

Other grade symbols used are:

P which indicates pass. Individual departments are authorized the use of P (pass) or F (fail) under certain circumstances. Students in the Departments of Chemistry, Education and Human Resources should consult their Department Chairman and/or mentor for details; IP which indicates a student is registered for a thesis or an approved research project which has not been completed at the end of a given semester but for which satisfactory progress is being made. This grade is temporary and once the work has been completed it must be converted to one of the permanent grade symbols;

W which means a student has withdrawn from a course, with approval, prior to an evaluation of the student's progress by an instructor; WP or WF indicates that a student has withdrawn from a course, with approval, but an evaluation of the student's work had been made prior to the request for a withdrawal;

I indicates postponement of the completion of a course. It is given at the discretion of the instructor to a student who is doing satisfactory work but who has not completed all of the course requirements at the end of a given semester. Given such an extension, the student must complete all the required work, unless otherwise agreed, before the end of the next regular semester. Failure to complete the necessary work within the stipulated time results in automatic conversion of the "Incomplete" to the permanent grade of NC (never completed);

NC indicates that a student failed to complete the requirements of a course, in spite of an extension of time to do so.

"Audit" indicates that a student has taken a course for which permission has been granted to take without a grade being awarded. Students must secure such authorization prior to the start of a course.

Regular attendance at class is considered a requisite for successful completion of a course.

### **TIME LIMIT**

All graduate work for a degree, including the thesis, must be completed within six consecutive years. Time spent in the armed forces is not included in the six year period. Extension of this time restriction may be granted for valid reasons at the discretion of the Dean.

### **CONSORTIUM, INSTITUTES AND OFF-CAMPUS COURSES**

The Graduate School as a member of the Lehigh Regional Consortium, the Consortium for Educational Field Services with Marywood College and on its own, conducts or participates in institutes and

special off-campus courses or programs. Persons enrolling in such offerings are reminded of Graduate School student application and admission policies as cited earlier in this catalog.

Attention is specifically called to the fact that enrollment in these situations does not imply that the student has been automatically accepted as a "Degree Student". The ordinary student admission classification under these circumstances is "Special Student - Professional Improvement Only".

Students are further reminded that if university graduate credits are offered and earned in these cases that they may or may not be used for fulfilling degree requirements. Acceptance of these credits for degree purposes are dependent upon the course subject matter for which they were granted and the compatibility of such matter with the student's prescribed degree program. The acceptability of credits so earned in these cases is determined by the student's mentor and/or the Director of the particular degree program. In any event, the maximum allowable credits to be so accepted can not exceed twelve. Students who contemplate utilizing such study situations for degree purposes are advised to secure written approval for such usage from their mentor and/or the Director of the appropriate degree program before enrolling.

### **TRANSFER OF CREDITS**

After a student has acquired candidacy status he may request that approved graduate work previously completed at other institutions be accepted as partial fulfillment of graduate course requirements here. This will be granted only under the following conditions:

1. That such credits were acquired in residence at the other institution. Extension credits are, ordinarily, not acceptable.
2. That only six (6) credits maximum be transferred.
3. That courses to be transferred parallel courses here and mesh with the student's program at the University of Scranton.
4. That these credits were taken within six (6) years of the student's admission.
5. That a grade of B or better was acquired in these courses and that an official transcript is submitted for work at other institutions, including the course description of the credits in question.

Students matriculated at the University of Scranton may follow courses at other approved graduate schools, and transfer credits only with the previous permission of their mentor and the Dean of the Graduate School.



## **COMPREHENSIVE EXAMINATIONS**

Before a Master of Arts or Master of Science degree is awarded, the candidate must pass a comprehensive examination in his graduate course work. This examination may be either oral, written or both. Eligibility for admission to the examination is determined by the student's mentor with the approval of the Department Committee. This examination will be given only on the dates published in the graduate catalogue. Application forms are obtainable at the Graduate School Office.

Several weeks before the examination date, the candidate should consult his mentor for a general explanation of the topics to be covered in the examination and file an application for the examination.

Candidates failing the comprehensive examination for the second time will not be considered for the advanced degree.

The results of the comprehensive examination will be forwarded to the candidate by mail.

## **THESIS**

Candidates for the Master of Arts degree in Chemistry, Education, English, History, Physics and Rehabilitation Counseling must present a thesis, completed under the active supervision of the candidate's mentor and approved by one additional reader. In case of doubt, a third reader may be required. In the preparation of the thesis, style regulations prescribed by the Graduate School will be observed. Two copies of the accepted thesis must be submitted to the Graduate School Office on or before the date indicated in the university calendar.

## **SUMMARY**

The following procedures are to be followed by students working for the advanced degree:

- 1) File an application for admission to graduate study, official transcripts of undergraduate preparation and of graduate credits taken elsewhere, and supporting recommendations.
- 2) Meet with their mentor to organize a program of studies in the major course concentration selected and confirm the program at each registration period.
- 3) Apply for candidacy for the degree by fulfilling requirements.
- 4) Complete core, specific major and elective courses.
- 5) Complete the required thesis or scholarly paper if applicable.
- 6) Successfully pass the required comprehensive examination if applicable.
- 7) Make formal application to the Graduate office for the degree.

## **ALUMNI MEMORIAL LIBRARY**

The library is located on the Scranton Estate. It contains more than 160,000 bound volumes, with over 950 literary, scientific and professional periodicals currently received. Microfilm, micro fiche, and micro card reading equipment is available, as well as, inter-library loan.

The library is open daily during the Fall and Spring Semesters from 8:30 A.M. to 11:00 P.M., Monday to Thursday; 8:30 A.M. to 5:00 P.M. on Friday; 9:00 A.M. to 5:00 P.M. on Saturday. During the Summer Semester the hours are the same with the exception of a 9:00 A.M. opening hour each day. The library is open on Sundays from 3:00 to 9:00 P.M. These hours are subject to change.

## **COUNSELING AND PLACEMENT**

The University's counseling and placement services are available to graduate students. The Counseling Center is located in St. Thomas Hall, Room 401. All offices are open on weekdays from 8:30 A.M. to 4:30 P.M. and at other times only by appointment.

In addition, there is an Career Services Office to serve students anticipating further graduate work, and for assistance in securing employment placement. Usually, special hours are scheduled to accommodate Graduate School students. Kindly contact the Career Services Office for these special periods.

## **FINANCIAL AID**

Graduate teaching assistantships are available in each department offering graduate programs. Departments also award fellowships and assistantships to graduate students who aid in a variety of departmental duties, including assisting in faculty research. Traineeships are available for those students in the Rehabilitation Counseling program; aid is also provided for those enrolled in the Vocational Adjustment program through the Professional Education Program of the State of Pennsylvania. Information and application forms for the assistantships, fellowships, and traineeships may be obtained from the Dean of the Graduate School.

Resident assistantships are offered to single male and female graduate students, providing room and board in the university's dormitories. Applications may be secured from the Student Personnel Office.

In addition, loan programs for graduate students, including the National Graduate and Professional School Financial Aid Service, and a number of campus jobs through the Work-Study program are offered. Inquiries regarding loan and Work-Study programs should be directed to the Financial Aid Office.

## **CAMPUS HOUSING**

Limited housing is offered for single graduate students in the ten modern university dormitories and university owned off-campus residences. Room and board for one semester is \$600.00. Please consult Student Personnel office for details.

## **PHYSICAL EDUCATION CENTER**

The use of the John J. Long Center is provided for graduate students at a cost of \$7.00 per semester. Facilities are provided in the physical education building, for all indoor sports such as basketball, handball, weight lifting. A physical therapy room and sauna bath are also housed in the structure.

## **COMPUTING CENTER**

The Sigma 5 Xerox Data System, located in the Computing Center, is available for use by graduate students conducting research and programming functions in this area.

## **HONOR SOCIETIES**

Chapter organizations of several national honor societies are maintained at the University of Scranton campus. Graduate students can be selected for membership in the following: Alpha Sigma Nu, international Jesuit honor society; Phi Delta Kappa, education; Phi Alpha Theta, national honor society in history; Delta Mu Delta, business administration honor society; Sigma Pi Sigma, physics honor society; Omicron Delta Epsilon, national honor society in economics and Phi Lambda Upsilon, honorary chemical society. Contact the chapter officers for further information regarding membership.

## **RESERVE OFFICERS' TRAINING CORPS PROGRAM (ROTC)**

University of Scranton graduate school students are encouraged to consider enrolling in the ROTC program. Both men and women are eligible to enroll in the program. Students who successfully completed the ROTC Basic Course as undergraduates would participate in the Advanced Course to include a six-week summer camp at the end of their first year of graduate school. While participating in the Advanced Course, students are paid \$100.00 per month for ten months per year. Students who did not enroll in or complete the Basic Course as undergraduates would be required to attend a six-week basic summer camp prior to being accepted in the Advanced Course.

Upon completion of graduate school, students would be commissioned as Second Lieutenants in the United States Army and would have an active duty obligation of two years.

Interested students should contact the Professor of Military Science in Room 104, Saint Thomas Hall.

## EXPENSES

### GRADUATE SCHOOL

Tuition (per semester hour of credit) .....\$59.00

#### *Fees —*

|  |       |
|--|-------|
| Admission Fee .....                          | 10.00 |
| Library Fee (per semester) .....             | 5.00  |
| Science Lab Fee .....                        | 30.00 |
| Late Registration .....                      | 15.00 |
| Prerequisite Challenge Examination Fee ..... | 30.00 |
| Audio-Visual Aids Fee .....                  | 5.00  |
| Binding of Thesis .....                      | 25.00 |
| Graduation Fee .....                         | 30.00 |

Unless explicitly stated otherwise, tuition and fees are for one semester and are payable at registration. Tuition charges are made for all credits awarded. The Graduation Fee is payable, whether or not, a student attends commencement exercises.

Students will not be permitted to receive any degree, certificate, or transcript of record until their financial accounts with the University have been satisfactorily settled.

## REFUNDS

No refunds may be demanded as a matter of right when a student leaves the University without completing the semester in which he was engaged. If, however, his withdrawal is authorized by the Dean for a good cause and if he is entitled to an honorable dismissal, he may request in writing a refund of tuition. Fees are not refundable.

The following refund schedule will be applied to approved cases:

| <i>Date of Notification to Dean</i> | <i>Refund</i> |
|-------------------------------------|---------------|
| <b>FALL SEMESTER, 1975</b>          |               |
| To September 13 .....               | 80%           |
| To September 20 .....               | 60%           |
| To September 27 .....               | 40%           |
| To October 4 .....                  | 20%           |
| Beyond October 4 .....              | No refund     |
| <b>INTERSESSION, 1976</b>           |               |
| End of First Week .....             | 80%           |
| End of Second Week .....            | 40%           |
| Beyond Second Week .....            | No refund     |
| <b>SPRING SEMESTER, 1976</b>        |               |
| To February 21 .....                | 80%           |
| To February 28 .....                | 60%           |
| To March 6 .....                    | 40%           |
| To March 13 .....                   | 20%           |
| Beyond March 13 .....               | No refund     |
| <b>SUMMER SEMESTER, 1976</b>        |               |
| End of First Week .....             | 80%           |
| End of Second Week .....            | 40%           |
| Beyond Second Week .....            | No refund     |

# DEPARTMENT OF EDUCATION

Dr. Carl P. Barone, Chairman

## DEPARTMENTAL REQUIREMENTS

The applicant for admission must possess the baccalaureate degree from an accredited college or university and provide the Departmental Committee on Admissions with evidence of satisfactory undergraduate preparation to achieve graduate work of good quality. The Departmental Admissions Committee will consider each application toward this end.

The Admissions Committee will also consider the academic and personal traits of each applicant in relation to his potential for satisfactory achievement in graduate study.

With the exception of counselor-education majors, the applicant will have completed the ordinary state requirements for professional certification; of those seeking a masters' degree, a B average in undergraduate Education courses is expected. If undergraduate course preparation in Education or the general or liberal studies is deficient, as determined by the Admissions Committee, the student will correct the deficiency before he applies for candidacy for the advanced degree.

Specific requirements for entrance into certain major concentrations are in addition to the admissions requirements to graduate study in Education at the University. These are described in the sections on Course Concentrations.

## CANDIDACY

It is the responsibility of the student to fulfill all candidacy requirements. His acceptance as a graduate student in a given major requires that he fulfill the following requirements:

1. File a formal application for candidacy with the Dean of the Graduate School.
2. Pass all courses required for candidacy with a mark of B in each course. He will only be allowed to repeat any course once. (See requirements of each major).
3. Is approved by the Department in the field of his major concentration according to Departmental norms.

## **THE MASTER OF ARTS DEGREE**

Thirty semester hours credit are needed for the M.A. degree. Nine of these will be in Education 202, 205, 206 or 207. Of the remaining twenty-one, three credits are allowed for the successful completion of a thesis, a requirement of the Master of Arts degree.

At the time of candidacy for the degree, the candidate's mentor, in co-operation with the student, will plan a program of studies which, together with the thesis, will provide a sound treatment of some area of interest. As a result of intensive work in this area, his study should be marked by sound mastery and technical accuracy. The M.A. program may entail requirements prescribed by the mentor, including those essential courses consistent with sound scholarship. The mentor's judgment in this matter is final.

The thesis required for the M.A. degree may be a research paper of suitable dimensions, a critical report of certain procedures or sectors of knowledge, or a scholarly biographical work on the Master's level.

The student, with the permission of the mentor, will register for a seminar while working on his thesis.

## **THE MASTER OF SCIENCE DEGREE**

Thirty semester hours or more of course credit are usually required for the M.S. degree. For the M.S. there is no thesis requirement, but a scholarly paper must be presented to the mentor 60 days before graduation. The student may seek the Master of Science degree in any one of the concentrations indicated hereafter.

Before registration, the graduate student will meet with his advisor for the selection of a concentration of courses and the approval of his program of studies. About one half of the course requirements for the Secondary Education program will be in a subject-matter field.

While the candidate's courses within a concentration should possess flexibility, certain essential courses are required. The advisor may make substitutions in order to round out a sound program of courses, and in this matter his judgment is final.

## **THE COMPREHENSIVE EXAMINATION**

A comprehensive examination, as prescribed by the student's mentor, is required of all candidates for a degree in education. This examination may be written, oral, or both.

# MAJOR COURSE CONCENTRATIONS

## SECONDARY EDUCATION

### Correlated Programs

Dr. Matthew C. Farrell, Director of Graduate Programs

*Objective:* To prepare the secondary school teacher in-service for more effective instruction of students.

| <i>Core Courses:</i>  | <i>Semester Hours</i> |
|---|-----------------------|
| Education 202 Educational Research and Literature .....                   | 3                     |
| Education 205 Philosophical and Historical<br>Bases of Education I .....  | 3                     |
| Education 206 Philosophical and Historical Bases of Education II .....    | 3                     |
| or  |                       |
| Education 207 The Sociology of Education .....                            | 3                     |
| <i>Required Courses:</i>  |                       |
| Education 233 Curriculum Theory and Development .....                     | 3                     |
| Education 234 Improvement of Instruction<br>in the Secondary School ..... | 3                     |
| Education 272 Human Development and Learning .....                        | 3                     |

#### *Programs of Correlated Studies*

No less than 15 semester hours in one of the following subject fields:

|                               |                 |
|-------------------------------|-----------------|
| Art Education                 | Mathematics     |
| Business                      | Music Education |
| Chemistry                     | Physics         |
| English                       | Reading         |
| General Science               | Social Studies  |
| History and Political Science |                 |

#### *Requirements for Candidacy:*

Before applying for candidacy, the student will successfully complete four graduate courses with at least a grade of B. These four courses for candidacy will consist of two core courses and two courses from the subject matter area.

# COUNSELOR EDUCATION

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Dr. James J. Cunningham, Director of Graduate Program

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*Objectives:* The preparation of secondary school counselors.

*Certification as a School Counselor:* Students who desire to apply for the Pennsylvania school counselor's certificate must follow the certificate sequence as approved by his advisor and receive the master's degree.

Only students of proven competency who have successfully completed the certificate sequence and degree requirements will be endorsed for certification by the University.

Students who are not interested in secondary school counseling may, if approved by their mentor, substitute certain other courses directed toward other objectives. In this respect, courses in elementary school counseling are available.

## *Major Concentration Entrance Requirements:*

These requirements for entrance into the Counselor Education major are in addition to the entrance requirements of the Graduate School:

- (1) Recommendations of three persons capable of evaluating the candidate's personal qualities as well as academic potential.
- (2) A written, self-estimate of the candidate's qualifications for the job of the counselor.
- (3) A personal interview.

## *Core Courses for Candidacy:*

### *Semester Hours*

|               |   |   |
|---------------|---|---|
| Education 202 | Educational Research and Literature ..... | 3 |
| Education 240 | Foundations of Guidance .....             | 3 |
| Education 241 | Group Dynamics .....                      | 3 |
| Education 253 | Evaluation and Appraisal I .....          | 3 |

## *Other Required Courses*

### *Semester Hours*

|                 |   |   |
|-----------------|---|---|
| Education 242   | Counseling Interview Techniques .....           | 3 |
| Education 243   | Current Issues in Counseling and Guidance ..... | 3 |
| Education 244.1 | Supervised Counseling Experience .....          | 3 |
| Education 244.2 | Supervised Counseling Experience .....          | 3 |
| Education 246   | Vocational Development .....                    | 3 |
| Education 254   | Evaluation and Appraisal II .....               | 3 |



|               |                                      |   |
|---------------|--------------------------------------|---|
| Education 272 | Human Development and Learning ..... | 3 |
|               | or                                   |   |
| Education 274 | Developmental Psychology .....       | 3 |
| Education 275 | Psychology of Adjustment .....       | 3 |

### **ELECTIVES**

|                 |  |   |
|-----------------|--|---|
| Education 207   | The Sociology of Education .....                 | 3 |
| Education 242.1 | Behavioral & Family Counseling .....             | 3 |
| Education 242.2 | Utilization of Community Resources .....         | 3 |
| Education 263   | Contemporary Theories of Personality .....       | 3 |
| Education 247   | Elementary School Counseling .....               | 3 |
| Education 248   | The Role of the Elementary School Counselor..... | 3 |
| Education 249   | Seminar: Elementary School Counseling .....      | 3 |

#### *Master's Degree:*

Thirty-six semester hours of credit are required for the Master's degree.

# ELEMENTARY EDUCATION

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Dr. Michael Marino, Director of Graduate Program

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*Objective:* To prepare the elementary school teacher in-service for more effective instruction of students, and to help him or her acquire the skills and values to become a self-renewing teacher.

Phase I    9 credits *Semester Hours*

|               |  |   |
|---------------|--|---|
| Education 202 | Educational Research and Literature .....                  | 3 |
| Education 205 | Philosophical and Historical<br>Bases of Education I ..... | 3 |
| Education 206 | Philosophical and Historical Bases of Education II .....   | 3 |
| Education 207 | The Sociology of Education .....                           | 3 |

Phase II    6 credits

|               |   |   |
|---------------|---|---|
| Education 230 | The Elementary School Curriculum .....                  | 3 |
|               | or  |   |
| Education 280 | Open Education .....                                    | 3 |
| Education 231 | Improving Instruction in the<br>Elementary School ..... | 3 |
|               | or  |   |
| Education 281 | Individualizing Instruction .....                       | 3 |

Phase III    15 credits

|                 |  |   |
|-----------------|--|---|
| Education 283   | Children's Literature in the Elementary School....                               | 3 |
| Education 284   | Seminar in the Language Arts:<br>Reading, Writing, Speaking, and Listening ..... | 3 |
| Education 285   | The Analysis of Research Studies in<br>Language Arts .....                       | 3 |
| Education 286   | Selected Problems in Elementary School<br>Mathematics .....                      | 3 |
| Education 286.1 | Seminar in Elementary School Mathematics .....                                   | 3 |
| Education 287   | Selected Problems in Elementary School<br>Social Studies .....                   | 3 |

|   |   |
|---|---|
| Education 287.1 Seminar in Elementary School Social Studies ..... | 3 |
| Education 288 Selected Problems in Elementary School Science....  | 3 |
| Education 288.1 Seminar in Elementary School Science .....        | 3 |
| Education 289 Workshop in Elementary Education .....              | 3 |
| Education 289.1 Workshop in Teaching Values .....                 | 3 |
| Education 291 Foundations of Reading Instruction .....            | 3 |

A student may select courses other than those listed in Phase III provided that they are part of an integrated program and the student has permission from his or her mentor.

*Requirements for Candidacy:*

The student must complete one course from each phase before applying for candidacy.

SPECIAL GRADING OPTION

Elementary Education students may elect to be graded either by the traditional marking system or by the pass-fail system in selected courses. The traditional marking system is described in the beginning section of this catalogue. The pass-fail system is as follows: P means average or above-average achievement (P replaces A, B+ and B of the traditional marking system), C, I, and F are the other symbols used and mean the same in both systems.

The instructor designates whether his course is to be selected for student choice of marking systems, and in those selected courses, the student registers his choice of marking system with the instructor at the beginning of the semester.

# ADMINISTRATION

## (Elementary and Secondary)

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Dr. Carleton Upright, Director of Graduate Program

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*Objectives:* The preparation of elementary and secondary school principals.

*Major Concentration Entrance Requirements:*

These requirements for entrance into the Administrative major are in addition to the entrance requirements of the Graduate School:

- (1) Recommendations of three persons capable of evaluating the candidate's personal qualities as well as academic potential.
- (2) A written self-estimate of the candidate's qualifications for the position of principal.
- (3) A personal interview.

*Core Courses for Candidacy:*

*Semester Hours*

|               |  |   |
|---------------|--|---|
| Education 202 | Educational Research and Literature .....                        | 3 |
| Education 205 | Philosophical and Historical Foundations of<br>Education I ..... | 3 |
| Education 221 | Educational Administration .....                                 | 3 |

*The Master's Degree:*

A student will be recommended for a Master of Science degree in School Administration when he has satisfactorily completed the seven courses required in Phase I and Phase II, four courses from Phase III and IV as approved by his mentor, passed a Comprehensive Examination in School Administration, and filed an approved scholarly paper sixty days prior to graduation.

*Certification as a Principal:*

Upon completion of the 15 courses or 45 credits (including Ed. 225 and Ed. 235) provided in Phases I through IV, a candidate may be endorsed by the University of Scranton to the Pennsylvania Department of Education for certification as a Secondary School Principal.

Upon completion of the 15 courses or 45 credits (including Ed. 223 and Ed. 232) provided in Phases I through IV, a candidate may be endorsed by the University of Scranton to the Pennsylvania Department of Education for certification as an Elementary School Principal.

A master's degree is required for either or both certificates.

*Phase I - Four Courses - Ed. 202, Ed. 205 and Ed. 221 required.*

*Semester Hours*

|         |   |   |
|---------|---|---|
| Ed. 202 | Educational Research and Literature .....               | 3 |
| Ed. 205 | Philosophical & Historical Foundations of Education I.. | 3 |
| Ed. 206 | Philosophical & Historical Foundations of Education II  | 3 |
| Ed. 207 | The Sociology of Education .....                        | 3 |
| Ed. 221 | Educational Administration .....                        | 3 |

*Phase II - Three Courses - Ed. 233 required.*

|         |  |   |
|---------|--|---|
| Ed. 223 | The Elementary School Principal as Administrator ..... | 3 |
| Ed. 225 | The Secondary School Principal as Administrator .....  | 3 |
| Ed. 226 | Administration and Organization of the Middle School.. | 3 |
| Ed. 232 | The Elementary School Principal as Supervisor .....    | 3 |
| Ed. 233 | Curriculum Theory and Development .....                | 3 |
| Ed. 235 | The Secondary School Principal as Supervisor .....     | 3 |

*Phase III - Three Courses - elective*

|                 |  |   |   |
|-----------------|--|---|---|
| Bus. 244        | Labor Management Problems .....            | 3 |   |
| Bus. 246        | Management of Human Resources .....        | 3 |   |
| Ed. 240         | Foundations of Guidance .....              | 3 |   |
| Ed. 241         | Group Dynamics .....                       | 3 |   |
| Hist. 208 - 209 | The American Heritage .....                | 3 |   |
| Hist. 212 - 213 | Development of American Civilization ..... | 3 |   |
| S.S. 400        | The Ethnic Experience .....                | 3 |   |
| Pol. Sci. 407 - | Public Administration .....                | 3 | <div style="display: inline-block; vertical-align: middle;"> <div style="font-size: 4em; vertical-align: middle;">}</div> <div style="display: inline-block; vertical-align: middle;"> <i>Maximum of<br/>two courses<br/>from this<br/>group.</i> </div> </div> |
| Soc. 406 -      | Community Organization .....               | 3 |   |
| Soc. 411 -      | Urban Sociology .....                      | 3 |   |
| Soc. 414 -      | American Minority Groups .....             | 3 |   |

*Phase IV - Five Courses - elective.*

|           |  |   |
|-----------|--|---|
| Ed. 222.1 | Problems in School Administration & Supervision .....          | 3 |
| Ed. 222.2 | Public Relations for School Principals .....                   | 3 |
| Ed. 222.3 | Personnel Management for School Principals .....               | 3 |
| Ed. 222.4 | School Finance Problems for the School Principal .....         | 3 |
| Ed. 222.5 | School Plant Management for the School Principal ....          | 3 |
| Ed. 222.6 | School & Community Relations for the School<br>Principal ..... | 3 |
| Ed. 222.7 | Practicum in School Administration .....                       | 3 |
| Ed. 222.8 | School Law .....   | 3 |

# READING

Dr. Raymond L. Kimble, Director of Graduate Program

*OBJECTIVES:* To prepare reading specialists and reading supervisors, K through 12. Courses in this area are also of value to majors in other divisions.

A correlate in reading may be taken by students in elementary or secondary education with the approval of the Director of the Reading Program and their mentors. These courses are not intended to prepare the student for certification as a reading specialist.

## MASTER'S DEGREE PROGRAM

A student will be recommended for a Master's Degree in Reading when he has satisfactorily completed a minimum of 30 semester hour credits as approved by his Mentor, passed the Competency Evaluations, (comprehensive examination) and filed an approved scholarly paper.

| <i>Core Courses for Candidacy:</i> |  | <i>Semester Hours</i> |
|------------------------------------|--|-----------------------|
| Education 202                      | Educational Research and Literature .....          | 3                     |
| Education 291                      | Foundations of Reading Instruction .....           | 3                     |
| Education 292                      | Prevention and Detection of Reading Disabilities.. | 3                     |
| Education 272                      | Human Development and Learning .....               | 3                     |
| or                                 |  |                       |
| Education 274                      | Development Psychology .....                       | 3                     |
|                                    |  | —                     |
| Required.....                      |  | 12                    |

| <i>Required Courses</i> |  | <i>Semester Hours</i> |
|-------------------------|--|-----------------------|
| Education 293.1         | Diagnosis of Reading Disabilities .....        | 3                     |
| Education 294           | Practicum in Reading .....                     | 3                     |
| Education 295           | Reading in the Content Area .....              | 3                     |
| or                      |  |                       |
| Education 296           | Organization and Operation of Reading Programs | 3                     |
| Education 297           | Reading in the Secondary Schools .....         | 3                     |
|                         |  | —                     |
| Required.....           |  | 12                    |

| <i>Electives (By advisement)</i> |   | <i>Semester Hours</i> |
|----------------------------------|---|-----------------------|
| Education 205                    | Philosophical and Historical Bases of Education I.. | 3                     |
| Education 206                    | Philosophical and Historical Bases of Education II  | 3                     |
| Education 253                    | Evaluation and Appraisal I .....                    | 3                     |

|                 |   |          |
|-----------------|---|----------|
| Education 251   | Evaluation and Appraisal II .....   | 3        |
| Education 262   | Learning Theories .....   | 3        |
| Education 268   | The Education of Exceptional Children .....                                     | 3        |
| Education 280   | Open Education .....  | 3        |
| Education 283   | Children's Literature in the Elementary School .....                            | 3        |
| Education 284   | Seminar in the Language Arts:<br>Reading, Writing, Speaking and Listening ..... | 3        |
| Education 293.2 | Clinical Diagnosis of Reading Disabilities .....                                | 3        |
| Education 299   | Seminar in Reading .....  | 3        |
|                 | Other courses by advisement .....   | Variable |
|                 |   | —        |
| Minimum.....    |   | 6        |

#### *Certification Program in Reading:*

Students in the master's degree program in reading and students simply desiring to meet Reading Specialist Certification requirements will be recommended, upon request, for the Reading Specialist Certificate after successfully completing the following course work and the competency evaluations. (Comprehensive examination). (To be recommended for the Pennsylvania Reading Specialist - Certificate the student must be a certified or certifiable teacher in Pennsylvania and have completed 3 years of satisfactory teaching).

| <i>Required Courses:</i> |  | <i>Semester Hours</i> |
|--------------------------|--|-----------------------|
| Education 202            | Education Research and Literature .....                | 3                     |
| Education 272            | Human Development and Learning .....                   | 3                     |
| or                       |  |                       |
| Education 274            | Developmental Psychology .....                         | 3                     |
| Education 291            | Foundations of Reading Instruction .....               | 3                     |
| Education 292            | Prevention and Detection of Reading Disabilities ..... | 3                     |
| Education 293.1          | Diagnosis of Reading Disabilities .....                | 3                     |
| Education 294            | Practicum in Reading .....                             | 3                     |
| Education 295            | Reading in the Content Area .....                      | 3                     |
| or                       |  |                       |
| Education 297            | Reading in the Secondary School .....                  | 3                     |
| Education 296            | Organization and Operation of Reading Programs .....   | 3                     |
|                          |  | —                     |
| Required.....            |  | 24                    |

#### *Reading Supervisor:*

The University offers an Approved Program for those students desiring to become certified as a Reading Supervisor in Pennsylvania. The stu-

dent who wishes to enroll in this program must possess a Master's Degree with a concentration in reading and have completed 5 years of satisfactory professional experience in the area in which the supervisory certificate is sought. \*

| <i>Required Courses</i>  | <i>Semester Hours</i> |
|--|-----------------------|
| Education 241 Group Dynamics .....                               | 3                     |
| Education 275 Psychology of Adjustment .....                     | 3                     |
| Education 298 Practicum for Reading Supervisors .....            | 3                     |
| Education 293.2 Clinical Diagnosis of Reading Disabilities ..... | 3                     |
| A course in Principles and Practices of Supervision .....        | 3                     |
| Other courses by advisement .....                                | variable              |
|  | -----                 |
|  | Required..... 15      |

\* Competency Evaluations are required



# ART EDUCATION

Sr. Dorothy McLaughlin, R.S.M., Ed.D.  
Coordinator of Graduate Program

## *Objective:*

To prepare the art teacher in-service for research, administration and supervision of art programs and to develop organizational ability in the designing of the art program.

## *Prerequisites:*

1. Satisfactory fulfillment of all admission criteria for studies in the Department of Education.
2. Undergraduate Degree in Art or Art Education and Certification to teach Art.

Limited deficiencies in undergraduate preparation of area proficiency may be remedied prior to or concurrent with graduate studies.

## *Core Courses:*

## *Semester Hours*

|               |   |   |
|---------------|---|---|
| Education 202 | Educational Research and Literature .....                   | 3 |
| Education 205 | Philosophical and Historical Bases of<br>Education I .....  | 3 |
| Education 206 | Philosophical and Historical Bases of<br>Education II ..... | 3 |
| or            |   |   |
| Education 207 | The Sociology of Education .....                            | 3 |

## *Required - Three Courses:*

|                 |  |   |
|-----------------|--|---|
| Education 233   | Curriculum Theory and Development .....                    | 3 |
| Education 221   | Educational Administration .....                           | 3 |
| Art Educ. 370   | Psychology of Art .....                                    | 3 |
| Education 222.1 | Problems in School Administration and<br>Supervision ..... | 3 |

## *Elective Courses:*

|               |                                    |   |
|---------------|------------------------------------|---|
| Art Educ. 301 | Painting .....                     | 3 |
| or            |                                    |   |
| Art Educ. 302 | Sculpture .....                    | 3 |
| Art Educ. 303 | American Art History .....         | 3 |
| Art Educ. 331 | Art in the Elementary School ..... | 3 |
| Art Educ. 332 | Art in the Secondary School .....  | 3 |
| Art Educ. 333 | Art in Special Education .....     | 3 |

Kindly refer to the criteria outlined by the Department of Education, the Division of Graduate Secondary Education and the Programs of Correlated Studies for application procedures and degree requirements.

# MUSIC EDUCATION

Sr. M. Carmel McGarigle, R.S.M., M.M.  
Coordinator of Graduate Program

## *Objectives:*

To prepare teachers in-service for more effective instruction of students in the techniques of music education.

## *Prerequisites:*

1. Satisfactory fulfillment of all admission criteria for studies in the Department of Education.

2. Satisfactory evidence of proficiency in the following area: (a) harmony-written, aural, keyboard; (b) sight-singing; (c) melodic, harmonic, and rhythmic dictation; and (d) history, literature, and analysis of music.

3. Sufficient pianistic ability to meet the needs of the program.

Limited deficiencies in undergraduate preparation or area proficiency may be remedied prior to or concurrent with graduate studies.

## *Core Courses:*

## *Semester Hours*

|           |   |   |
|-----------|---|---|
| Educ. 202 | Educational Research and Literature .....                   | 3 |
| Educ. 205 | Philosophical and Historical Bases of<br>Education I .....  | 3 |
| Educ. 206 | Philosophical and Historical Bases of<br>Education II ..... | 3 |
|           | or  |   |
| Educ. 207 | The Sociology of Education .....                            | 3 |

## *Required - Four Courses:*

|                    |  |   |
|--------------------|--|---|
| Educ. 233          | Curriculum Theory and Development .....                            | 3 |
|                    | or   |   |
| Mus. Educ. 334     | Music Curriculum Development and Theory....                        | 3 |
| Mus. Educ. 335     | Supervision and Adminstration of Music<br>Education Programs ..... | 3 |
| Mus. Educ. 371     | Psychology of Music .....  | 3 |
| Mus. Educ. 316.1 - |  |   |
| 316.3              | Applied Music .....  | 3 |

## *Elective Courses:*

|                |  |   |
|----------------|--|---|
| Mus. Educ. 310 | Music in the Middle Ages and the Renaissance.. | 3 |
| Mus. Educ. 311 | Music in the Baroque and Classic Periods ..... | 3 |
| Mus. Educ. 312 | Music in the Romantic Period .....             | 3 |

|                |   |   |
|----------------|---|---|
| Mus. Educ. 313 | Twentieth Century Trends .....                | 3 |
| Mus. Educ. 314 | Counterpoint .....                            | 3 |
| Mus. Educ. 315 | Techniques of Analysis .....                  | 3 |
| Mus. Educ. 336 | Electronic Music .....                        | 3 |
| Mus. Educ. 337 | Pedagogy of Theory .....                      | 3 |
| Mus. Educ. 338 | Advanced Choral Techniques and Materials..... | 3 |
| Mus. Educ. 339 | Music in Special Education .....              | 3 |

Kindly refer to the criteria outlined by the Department of Education, the Division of Graduate Secondary Education and the Programs of Correlated Studies for application procedures and degree requirements.

# MATHEMATICS EDUCATION

Prof. Bernard J. Johns  
Coordinator of Graduate Program

## *Objective:*

To prepare the secondary school teacher in-service for more effective instruction of students in mathematics.

## *Prerequisite:*

Satisfactory fulfillment of all admission criteria for studies in the in the Department of Education.

## *Core Courses:*

## *Semester Hours*

|               |   |   |
|---------------|---|---|
| Education 202 | Educational Research and Literature .....           | 3 |
| Education 205 | Philosophical and Historical Bases of Education I.. | 3 |
| Education 206 | Philosophical and Historical Bases of Education II  | 3 |
|               | or  |   |
| Education 207 | The Sociology of Education .....                    | 3 |

## *Required Courses:*

|                     |   |   |
|---------------------|---|---|
| Education 233       | Curriculum Theory and Development .....                     | 3 |
| Education 234       | Improvement of Instruction<br>in the Secondary School ..... | 3 |
| Selected Psychology | .....   | 3 |

## *Elective Courses:*

|           |  |   |
|-----------|--|---|
| Math. 404 | Modern Algebra for Teachers .....            | 3 |
| Math. 405 | Linear Algebra and Theory of Equations ..... | 3 |
| Math. 406 | Introductory Analysis .....                  | 3 |
| Math. 407 | Geometry .....                               | 3 |
| Math. 408 | Probability and Statistics .....             | 3 |
| Math. 409 | Introduction to Computing .....              | 3 |

Kindly refer to the criteria outlined by the Department of Education, the Division of Graduate Secondary Education and the Programs of Correlated Studies for application procedures and degree requirements.

# SOCIAL STUDIES

Dr. John L. Earl, III

Dr. Michael D. DeMichele

Coordinators of Graduate Program

*Objective:*

To prepare the secondary school teacher in-service for more effective instruction of students in social studies.

*Prerequisite:*

Satisfactory fulfillment of all admission criteria for studies in the in the Department of Education.

*Core Courses:*

*Semester Hours*

|               |   |   |
|---------------|---|---|
| Education 202 | Educational Research and Literature .....           | 3 |
| Education 205 | Philosophical and Historical Bases of Education I.. | 3 |
| Education 206 | Philosophical and Historical Bases of Education II  | 3 |

or

|               |                                  |   |
|---------------|----------------------------------|---|
| Education 207 | The Sociology of Education ..... | 3 |
|---------------|----------------------------------|---|

*Required Courses:*

|                     |  |   |
|---------------------|--|---|
| Education 233       | Curriculum Theory and Development .....      | 3 |
| Educ./S.S. 237.1    | Teaching of History and Social Science ..... | 3 |
| Selected Psychology | .....  | 3 |

*Elective Courses:*

|          |   |   |
|----------|---|---|
| S.S. 400 | The Ethnic Experience .....   | 3 |
| S.S. 401 | Ethnic Heritage and Culture .....                                     | 3 |
| S.S. 402 | Contemporary World: An Age of Controversy .....                       | 3 |
| S.S. 403 | Today's "Isms": Fascism, Socialism, Communism,<br>Democracy .....     | 3 |
| S.S. 404 | The Soviet Union Today and Tomorrow .....                             | 3 |
| S.S. 405 | World Politics: Peace, War and Diplomacy<br>in Modern Age .....       | 3 |
| S.S. 406 | The Third World: Asia, Africa, Latin America<br>and Middle East ..... | 3 |
| S.S. 407 | Europe in the Global Age .....  | 3 |
| S.S. 408 | Cultural Geography .....  | 3 |
| S.S. 409 | Comparative Religions .....   | 3 |
| S.S. 410 | Social Setting of Economics .....                                     | 3 |
| S.S. 411 | Cultural Anthropology .....   | 3 |
| S.S. 412 | Sociology: Urban - Contemporary Theories -<br>Social Problems .....   | 3 |

Kindly refer to the criteria outlined by the Department of Education, the Division of Graduate Secondary Education and the Programs of Correlated Studies for application procedures and degree requirements.

# COURSE DESCRIPTIONS

## FOUNDATIONS OF EDUCATION

Education 202. *Educational Research and Literature* 3 credits

This is a basic course concerned with the nature of research problems. Predictive studies, surveys and experimental designs are treated with the objectives of critical appraisal by the student and as a help to him in initiating his research project, which is to be developed with his faculty advisor.

Education 205. *Philosophical and Historical Bases of Education I* 3 credits

This course considers in the tradition of philosophy the fundamental problems of the nature of man, the child, the parent, the school, and society. The aims of education in society and their consequences in rights and duties are the most salient problems.

Education 206. *Philosophical and Historical Bases of Education II* 3 credits

The second course studies the history of education formally. After a brief overview of the classical, patristic, and medieval periods, major attention is given to education in the twentieth century, especially in the United States.

Education 207. *The Sociology of Education* 3 credits

The sociology of education is oriented toward understanding the social influences on learning. The socialization of the child, social structure in American society, social mobility, the school as an agency of socialization, social problems especially germane to the school such as delinquency, population and racial integration, the social role of the teacher, the school and its sociological environment will be the areas of special concern.

## ADMINISTRATION

Education 221 - *Educational Administration* 3 credits

A foundations course in general school administration, involving philosophical bases, organization in a democratic society, administration of instruction and personnel. Required of all students beginning a major in educational administration and a prerequisite for other courses in educational administration.

Education 222.1 - *Problems in School Administration and Supervision* 3 credits

A seminar course for those seeking elementary and secondary school principal's certification. Emphasis is placed upon intensive investigation of selected problem in administration and supervision. (Prerequisites: Ed. 223 and 232 or Ed. 225 and 235).

Education 222.2 - *Public Relations for School Principals* 3 credits

An introduction to school public relations. Emphasis is focused upon the principal's role in establishing contact between schools and the general public through the use of mass media.

Education 222.3 - *Personnel Management for School Principals*

3 credits

An overview of the principal's role in the establishment and performance of personnel policies as they relate to recruitment, selection, orientation, deployment, promotion, evaluation, in-service development, morale, dismissal, and teacher-principal relationships. Admission with consent of instructor.

Education 222.4 - *School Finance Problems for the School Principal*

3 credits

An introduction to public school finance as it relates to the school principal. Emphasis is focused upon the principal's role and responsibilities in handling student funds, district budgeting and accounting, and modern planning - programming - budgetary systems. Admission with consent of instructor.

Education 222.5 - *School Plant Management for the School Principal*

3 credits

A study of problems involved in the planning, operation, and maintenance of school plant facilities. Emphasis is upon efficient use of existing plant facilities and their possible adaptations to meet modern educational and community needs. Admission with consent of instructor.

Education 222.6 - *School and Community Relations for the School Principal*

3 credits

A study of the relationship of the school to the community. Emphasis is focused upon the school-community concept, community analysis, community characteristics affecting quality education, and public participation in education planning. Admission with consent of instructor.

Education 222.7 - *Practicum in School Administration*

3 credits

The purpose of this course is to give the student practical experience in administrative work. A minimum of sixty clock hours in one semester must be spent on this work. Work is done under supervision in a local school system according to a definite schedule approved by the instructor and the administrator of the school system involved. Admission by special arrangement. (Offered Fall and Spring semesters only.)

Education 222.8 - *School Law*

3 credits

A study of common law legislative enactments and directives of the Pennsylvania Department of Education as they pertain to the Pennsylvania School System.

Education 223 - *The Elementary School Principal as Administrator*

3 credits

A technical course emphasizing the administrative duties and responsibilities of the elementary school principal. Attention is focused on types of organization, program, studies, pupil progress, teaching staff, plant and equipment, and community relationships. (Prerequisite: Ed. 221)

Education 225 - *The Secondary School Principal  
as Administrator*

3 credits

A technical course emphasizing the administrative duties and responsibilities of the secondary school principal. Attention is focused on problems of organization, program of studies, pupil personnel, teaching staff, plant and equipment, and community relationships. (Prerequisite: Education 221)

Education 226 - *Administration and Organization  
of the Middle School*

3 credits

A technical course emphasizing the organizational and administrative duties and responsibilities of the middle school principal. Attention is focused on the problems of organization, program of studies, pupil personnel, teaching staff, plant and equipment, and community relationships. (Prerequisite, Ed. 221)

## **CURRICULUM, INSTRUCTION & SUPERVISION**

Education 230 - *The Elementary School Curriculum* 3 credits

An investigation of curriculum theory as applied to classroom practice. Students will have an opportunity for serious study of the basic considerations necessary in providing a meaningful teaching-learning environment for children in a changing world.

Education 231 - *Improving Instruction in the  
Elementary School*

3 credits

Students will study a wide spectrum of evaluative devices and techniques which are necessary for a comprehensive evaluation of all the objectives of elementary education. Emphasis will be on how to apply the strategies of evaluation in the classroom to improve the curriculum of children.

Education 232 - *The Elementary School Principal  
as Supervisor*

3 credits

Methods and techniques in the supervision of the elementary school with the objective of improvement of teaching and learning in terms of modern objectives and methods.

Education 233 - *Curriculum Theory and Development* 3 credits

Principles of curriculum construction which underlie the reorganization of the program of studies for elementary and secondary schools, sources of the curriculum, methods of organization, structure of knowledge, and curriculum planning and development.

Education 234 - *Improvement of Instruction in the  
Secondary School*

3 credits

Secondary general methods with emphasis on current procedures, theories and practices. Such topics as classroom atmosphere, teacher-pupil behavior patterns, teaching skills, pupil-teacher planning, inquiry, communication, logic in teaching and teaching the process of learning. Other topics will be introduced as interest of the group and time allows.



Education 235 - *The Secondary School Principal  
as Supervisor*

3 credits

A technical course emphasizing the duties and responsibilities of the secondary school principal in the role of a supervisor of instruction. Attention is focused upon methods and techniques of supervision with the objective of improvement of teaching and learning in terms of modern objectives and methods.

Educ./S.S. 237.1 - *Teaching of History and  
Social Science*

3 credits

A consideration of the objectives of social studies, organizing the subject matter, textual and non-textual materials, the social studies curriculum, outcomes and their evaluation.

Educ./SS. 237.2 - *Teaching of English Literary Types  
in Secondary Schools*

3 credits

Narrative and lyric poetry types, prose types, and drama. Techniques of methodology and organizational patterns are suggested. Listed under Education courses, this offering is taught by the Department of English.

Education 280 *Open Education*

3 credits

An examination of topics that are relevant to the concept of open teaching and learning. Special emphasis will be in aiding teachers who wish to open their classrooms.

Education 281 *Individualizing Instruction*

3 credits

An analysis of theory and practice of individualizing instruction. Practical approaches will be emphasized.

Education 283 - *Children's Literature in the  
Elementary School*

3 credits

Literature for children from kindergarten through the elementary school years. Children's literary needs and interests will be emphasized.

Education 284 - *Seminar in the Language Arts:*

*Reading, Writing, Speaking and Listening* 3 credits

Focus is on the place of the language arts in the total elementary school curriculum. Topics included are integration of reading, writing, speaking and listening; correlation of these four areas of the language arts with the content subjects; and a consideration of innovative spelling and handwriting programs.

Education 285 - *The Analysis of Research Studies  
in Language Arts*

3 credits

This course is concerned with a critical analysis of the research evidence in the language arts and an examination of the underlying theoretical issues. Representative experimental, correlational and clinical studies will be evaluated in terms of their design, statistical tests employed and the relationship between specific findings and general conclusions.

Education 286 - *Selected Problems in Elementary*

*School Mathematics*

3 credits

Students will study selected topics, problems and recent developments relevant to the elementary mathematics curriculum and instruction.

Education 286.1 - *Seminar in Elementary School*

*Mathematics*

3 credits

The major emphasis of this seminar will be individual action research projects in elementary school mathematics to be carried out in the student's classroom. Also, several colloquia topics of general interest will be studied in depth.

Education 287 - *Selected Problems in Elementary*

*School Social Studies*

3 credits

Students will study selected topics, problems, and recent developments in the elementary social studies curriculum and instruction.

Education 287.1 - *Seminar in Elementary School*

*Social Studies*

3 credits

The major emphasis of this seminar will be individual action research projects in the social studies to be carried out in the student's classroom. Also, several colloquia topics of general interest will be studied in depth.

Education 288 - *Selected Problems in Elementary*

*School Science*

3 credits

Students will study selected topics, problems and recent developments in the elementary science curriculum and instruction.

Education 288.1 - *Seminar in Elementary School Science* 3 credits

The major emphasis of this seminar will be individual action research projects in elementary science to be carried out in the student's classroom. Also, several colloquia topics of general interest will be studied in depth. (Prerequisites, Educ. 202, 231)

Education 289 - *Workshop in Elementary Education* 3 credits

Students will have the opportunity to develop and test innovative curriculum materials and strategies with special emphasis on models for individualizing instruction.

Education 289.1 - *Workshop in Teaching Values* 3 credits

A course designed for students to become acquainted with areas of value teaching. It includes theory and value strategies for the classroom.

## RESEARCH

Education 290 - *Research Seminar* Variable to 3 credits

Designed for students who are working on their M.A. thesis. Registration is only with permission of the student's advisor and the Departmental Chairman.

Education 300 - *Directed Study*

Variable to 6 credits

This course is designed for students working in independent study on special projects and workshops. Registration in this course requires permission of the student's mentor, and the Department Chairman.

## READING

Education 291 - *Foundations of Reading Instruction*

3 credits

A basic course in the foundation of reading designed to provide an introduction to reading instruction and reading programs. A study of the reading skills, techniques and methods which are essential for effective reading will be examined.

Education 292 - *Prevention and Detection of Reading*

*Disabilities*

3 credits

A course in which the factors associated with reading disabilities are examined. A multi-disciplinary approach will be emphasized to aid in the prevention and detection of reading problems. Case studies will be analyzed to aid in assisting the reading specialist candidate synthesize the information essential for understanding how to assist in preventing and detecting disabled readers. (Prerequisite Education 291 or consent of Instructor).

Education 293.1 - *Diagnosis of Reading Disabilities*

3 credits

A laboratory course designed to assist the reading specialist in becoming proficient in diagnostic skills. Standardized tests and informal assessment instruments will be examined. The student will be required to prepare a Diagnostic Case Report on a student experiencing difficulty in reading. Selected assessment tools will be identified to recommend as appropriate for use by the classroom teacher. (Prerequisite Education 292 or consent of Instructor)

Education 293-2 - *Clinical Diagnosis of Reading Disabilities*

3 credits

An instructional internship emphasizing the clinical aspects of individual diagnosis. The course is designed for advanced graduate students and provides for clinical experiences. Degree students only.

Education 294 - *Practicum in Reading*

3 credits

An instructional internship for classroom teachers and/or reading specialists designed to provide a supervised instructional experience. The student is expected to assess, and initiate a reading program and report the results of the individualized instructional program. Appropriate materials, techniques and methods are examined and utilized during the internship. (Prerequisite Education 293.1 or consent of Instructor)

Education 295 - *Reading in the Content Areas*

3 credits

A comprehensive survey of resources and devices used to teach reading in the elementary and secondary schools. Emphasis will be placed on the specialized vocabularies, concepts and skills which are considered necessary for the comprehension of reading materials pertinent to content area subjects.

### Education 296 - *Organization and Operation of*

#### *Reading Programs*

*3 credits*

A lecture-discussion course dealing with the responsibilities of the reading specialist in setting up and directing a school reading program. Attention is given to types of programs and approaches to teaching reading in these different organizational patterns as well as incorporating procedures to support the regular classroom program. (With permission of the instructor).

### Education 297 - *Reading in the Secondary Schools*

*3 credits*

The course is designed to investigate some of the recent theories, practices, and techniques regarding reading in the secondary schools. Consideration will be given the problems of teaching reading to the secondary school student.

### Education 298 - *Practicum for Reading Supervisors*

*3 credits*

A supervised experience in a setting that permits the student to function in a Supervisory Capacity. Opportunities will be provided that will develop the student's competencies to provide direction in the organization and management of staff and students in an instructional environment. (Consent of Instructor).

### Education 299 - *Seminar in Reading*

*3 credits*

A course in which various facets of reading instruction will be probed in depth. Critical evaluations of journal articles will be made. The pedagogy and psychology of reading will be examined. The course is designed for advanced graduate students in reading. (Consent of instructor)

## **COUNSELING AND GUIDANCE**

### Education 240 - *Foundations of Guidance*

*3 credits*

The philosophy of guidance and its role in the total school program. The activities and techniques of the counselor are introduced, with special emphasis on the secondary-school counselor. Problems of organization, development, and administration of guidance services will be included. Required in the certificate program and must be taken during the first semester of graduate study.

### Education 241 - *Group Dynamics*

*3 credits*

Provides a basic understanding of group dynamics and behavior. Processes and patterns of interaction are analyzed primarily from the standpoint of their broad educational significance. The selection, evaluation and use of group counseling methods and materials. Methods of developing and organizing group programs are also presented. Required in the certificate program as part of the sequence.

### Education 242 - *Counseling Interview Techniques*

*3 credits*

The application of counseling theory to the practical interview situation. Included will be the use of test and non-test data in counseling the individual student. The counselor candidate will be expected to refine his ability to analyze and synthesize pertinent information. Required in the certificate program and must be preceded by Educ. 254 and Educ. 275.

Education 243 - *Current Issues in Counseling  
and Guidance*

3 credits

A professional seminar wherein emphasis is placed on the development of a sensitivity to the educational, sociological and philosophical implications of the counselor's role. This course is designed to provide for a smooth transition to the reality based school counseling situation. Individual counselor problems and deficiencies are identified and corrected. Required of all counselor education trainees.

Education 244.1 and 244.2 - *Supervised Counseling  
Experience*

6 credits

Actual counseling of secondary school students under supervision. A variety of experiences are provided, including counseling with students on an individual as well as a group basis. Required in the certificate program. Admission is only by consent of the instructor.

Education 246 - *Vocational Development*

3 credits

Emphasis will be on the practical acquisition, evaluation and utilization of vocational, educational and social information. Psychological and sociological aspects of vocational choice and vocational adjustment will be presented and major theories of vocational development reviewed. Occupational and industrial classification systems will be studied, primarily in terms of their roles in enhancing the process of secondary school counseling.

Education 253 - *Evaluation and Appraisal I*

3 credits

A foundation course to provide the counselor with the quantitative principles and skills necessary for effective functioning in testing and action research settings. Relevant concepts in descriptive statistics, correlation, and tests of significance will be applied to principles of test construction.

Education 254 - *Evaluation and Appraisal II*

3 credits

Emphasis will be placed on the development of competency in the evaluation, use, and interpretation of tests and inventories used in assessing abilities, achievement, interests and personality. The relationship of informal data to the analysis of individual behavior will be included. Selected instruments will be examined in terms of their design and appropriate utilization in the secondary school program. (Prerequisite: Educ. 253)

Ed. 242.1 - *Behavioral & Family Counseling*

3 credits

These two counseling modalities are presented with special emphasis upon how behavioral and family counseling might be utilized by secondary school counselors. A variety of specific techniques are explored with primary attention given to operant conditioning methodology and structural family counseling.

Prerequisites: Ed. 240, 241, 242 and permission of the Instructor.

Ed. 242.2 - *Utilization of Community Resources*

3 credits

This course examines in detail the role of the counselor in relation to various agencies in the community. Criteria for referral and the referral process are described in depth as are the various aspects of collaboration and cooperation between school and community. Existing community resources are examined and representatives of various agencies present information about their services.

Prerequisite: Permission of the Instructor.

Education 272 - *Human Development and Learning* 3 credits

A treatment of the psychological phases of human development, with emphasis upon the first two decades of life. Stress is placed upon the importance of interaction between phases of development, learning and classroom instruction.

Education 274 - *Developmental Psychology* 3 credits

An intensive treatment of psychosocial and biological aspects of human development with special emphasis on the implications for the counseling of secondary school students. Recommended for the certificate.

Education 275 - *Psychology of Adjustment* 3 credits

Provides an understanding of adjustive behavior. Attention is given to factors that influence behavior with special attention to adjustment problems of secondary school students. Recommended in certificate program and must be preceded by Education 274 or equivalent.

## ART EDUCATION

Art Educ 301 - *Painting* 3 credits

Painting in oils, egg tempera, and mixed-media. (Prerequisite: Painting).

Art Educ 302 - *Sculpture* 3 credits

Three dimensional art work in the areas of modeling and casting, carving and constructing, using a variety of materials. (Prerequisite: Three Dimensional Design or Sculpture).

Art Educ 303 - *American Art History* 3 credits

A study of the architecture, painting and sculpture from the North American Indian to the art of the Twentieth Century United States.

Art Educ 331 - *Art in The Elementary School* 3 credits

Philosophy and history of art education to the present day and evaluation of art education curricula as a basis for preparing an art program for the elementary school.

Art Educ 332 - *Art in The Secondary School* 3 credits

Current theories, practices and programs in art, art facilities and budgets of secondary schools, with emphasis on administrator-teacher-pupil relationships, as a basis for developing a program in art.

Art Educ 333 - *Art in Special Education* 3 credits

Physical, mental and emotional handicaps and the therapeutic role of art in the education of exceptional persons.

Art Educ 370 - *Psychology of Art* 3 credits

Major psychological theories of art and their historical antecedents, reading in the psychology of art, problems in the nature and genesis of artistic form, problems and studies of the creative individual.

## MUSIC EDUCATION

Mus. Educ. 336 *Electronic Music* 3 credits

Study of electronic music from **musique concrete** to the present; exploration of the possibilities of elementary tape technique in the secondary school curriculum through actual production of individual electronic compositions. Participants will have daily access to the Electronic Studio. (Spring, Summer)

Mus. Educ. 310 *Music in the Middle Ages and the Renaissance* 3 credits

Sacred and secular music of the Middle Ages; origin and development of polyphony; development of the larger religious and secular polyphonic forms; early instrumental forms. (Fall 1975 and alternate years)

Mus. Educ. 311 *Music in the Baroque and Classic Periods* 3 credits

Opera and the growth of instrumental music in the early 17th through the 18th century; **galant** style and the emergence of the classical idiom. (Spring 1975 and alternate years)

Mus. Educ. 312 *Music in the Romantic Period* 3 credits

Foundations of the 19th century romantic movement. Study of selected compositions from Beethoven through Mahler. (Fall 1974 and alternate years)

Mus. Educ. 313 *Twentieth Century Trends* 3 credits

Techniques and devices of impressionism; dissolution of the tonal system and development of the serial principle of construction; idioms and trends of the 20th century. (Spring)

Mus. Educ. 314 *Counterpoint* 3 credits

Survey of the contrapuntal techniques of the 16th through the 20th centuries; writing skills and analysis. (Fall 1974)

Mus. Educ. 315 *Techniques of Analysis* 3 credits

Development of the techniques of analysis through examination of scores drawn from a wide range of periods, styles, and media, with an emphasis on structural analysis.

Mus. Educ. 316.1 - 316.3 *Applied Music* 3 credits

Applied music for graduate students in fulfillment of degree requirements.

Mus. Educ. 334 *Music Curriculum Development and Theory* 3 credits

Contemporary philosophies and objectives of music in public education; construction of music programs to encourage aesthetic enjoyment of music by contemporary youth.

Mus. Educ. 335 *Supervision and Administration of Music Education Programs* 3 credits

Nature and Scope of supervision; supervisory relationships, procedures,

and techniques; organization and improvement of music curricula; administration of music programs; development of evaluative criteria.

Mus. Educ. 337 *Pedagogy of Theory* 3 credits

Methods, materials, and sequence for teaching classes in music theory; consideration of texts, course content, new approaches, and inclusion of contemporary techniques in the curriculum.

Mus. Educ. 338 *Advanced Choral Techniques and Materials* 3 credits

Study of the techniques of choral training; repertoire for junior and senior high school choruses; selection, training, and repertoire for advanced choirs and special ensembles.

Mus. Educ. 339 *Music in Special Education* 3 credits

Teaching of music and development of curriculum in special education.

Mus. Educ. 371 *Psychology of Music* 3 credits

Physiology and psychology in relation to music, musical aptitudes, and musical responses. The administration of musical tests and measurements. Related literature of experimental investigations will be reviewed and updated.

## MATHEMATICS

Math 404 - *Modern Algebra for Teachers* 3 credits

A treatment of groups, rings, etc. culminating in the negative result, Abel's Theorem, that there can be no formula for solving polynomial equations of degree greater than four. Wherever possible, the material shall be related to the various subsets of the real number system covered in the secondary schools.

Math 405 - *Linear Algebra and Theory of Equations* 3 credits

A study of second, third and fourth degree equations and systems of equations. Along with the methods of solution, an attempt will be made to provide the teacher with a backlog of applications for each type in the form of word problems.

Math 406 - *Introductory Analysis* 3 credits

An indepth study of the concepts and principles of calculus that are generally encountered in a secondary school analysis course. Emphasis will be placed on the development of the concepts of limit, derivative and integral and the various techniques a teacher might utilize in presenting them to a secondary school class. The student need not presently possess facility with calculus as this will develop during the course.

Math 407 - *Geometry* 3 credits

A study of Euclidean geometry including a discussion of methods and materials that teachers may employ in order to generate interest and enhance presentations. Wherever possible, relevant practical applications will be provided. A discussion of certain transformations will also be included.



Math 408 - *Probability and Statistics* 3 credits  
 An axiomatic approach to probability covering the basic rules, independence and conditional probability, probability functions, normal curve and hypothesis testing.

Math 409 - *Introduction to Computing* 3 credits  
 A discussion of various secondary school problem solving techniques which involve the use of computers.

## SOCIAL STUDIES

S.S. 400 *The Ethnic Experience* 3 credits  
 Immigration to America, early ethnic groups in Northeastern Pennsylvania, coal mining in the anthracite belt.

S.S. 401 *Ethnic Heritage and Culture* 3 credits  
 Main immigrant movement into Northeastern Pennsylvania. Ethnic problems, prejudice, achievements and accomplishments. Ethnic Politics.

S.S. 402 *Contemporary World: An Age of Controversy* 3 credits  
 A detailed examination and analysis of the major problems which have continually confronted the world in modern times.

S.S. 403 *Today's "Isms": Fascism, Socialism, Communism, Democracy* 3 credits  
 A detailed examination, discussion and interpretation of the leading political and economic ideologies that have affected the world in modern times.

S.S. 404 *The Soviet Union Today and Tomorrow* 3 credits  
 An analysis and interpretation of present and future politics, problems and policies of the U.S.S.R.

S.S. 405 *World Politics: Peace, War and Diplomacy in Modern Age* 3 credits  
 An analysis of contemporary world politics focusing on the political, diplomatic, economic and military aspects of international issues.

S.S. 406 *The Third World: Asia, Africa, Latin America and Middle East* 3 credits  
 A study of the major problems and rising aspirations of the so-called underdeveloped and developing nations in the world today.

S.S. 407 *Europe in the Global Age* 3 credits  
 An examination of the forces, issues and ideologies in conflict in the 20th Century.

S.S. 408 *Cultural Geography* 3 credits  
 A consideration of the influence of geography on the origins, structure and spread of the developing cultures.

- S.S. 409 *Comparative Religions* 3 credits  
A detailed examination of the major religious movements including Buddhism, Christianity, Hinduism, Judaism, Moslemism.
- S.S. 410 *Social Settings of Economics* 3 credits  
A study of the economic philosophies, industrial organization and economic power of modern time.
- S.S. 411 *Cultural Anthropology* 3 credits  
Cultural processes are viewed as ways of adapting human societies into the total system of social and physical environmental conditions in which they are found. Functional, evolutionary, economic and demographic standpoints are analyzed.

## **GRADUATE - UNDERGRADUATE COURSES**

- Political Science 407 - *Public Administration* 3 credits  
Nature of public administration; structures and statutory limitations; staff organization and flow of command; employment policies, personnel training and management; employee organization; public relations.
- Sociology 404 - *Cultural Anthropology* 3 credits  
Study and comparison of the learned, shared and transmitted behavior patterns and ideals by which man has worked out his social relations, dealt with his environment and defined his place in the world.
- Sociology 406 - *Community Organization* 3 credits  
A general introduction to the field and process of community organization, both as a field of social work, and as a field of human endeavor. The coordination and financing of welfare activities, methods of appraising community needs and resources, planning and the initiation of welfare services. Services of a voluntary and governmental nature.
- Sociology 411 - *Urban Sociology* 3 credits  
A sociological analysis of the development and effects of modern urbanization on human institutions, population trends and social relationships. The interrelationships, form, structure and organized life in cities, patterns of urban structure and cities of the future. The role of politics, social agencies and elements making for organization and disorganization. Urban planning and redevelopment.
- Sociology 413 - *Juvenile Delinquency* 3 credits  
Juvenile delinquency as a social problem. Methods of treatment and prevention, including juvenile courts, clinics, probation, parole, correctional institutions, child placement and recreational programs.
- Sociology 414 - *American Minority Groups* 3 credits  
A study of the cultural background, distribution, assimilation and other adjustments of minority groups; problems arising from the contacts of these people who differ as to race and culture. Prejudice and discrimination as opposed to the democratic ideology will be considered.

# DEPARTMENT OF HUMAN RESOURCES

Dr. Joseph A. Szubay, Chairman

## DEPARTMENTAL REQUIREMENTS

The applicant for admission must possess the baccalaureate degree from an accredited college or university and provide the Departmental Admissions Committee with evidence of satisfactory undergraduate preparation.

Among other requirements, a minimum undergraduate quality point average of 2.6 on the four-point scale will be necessary for admission. Each applicant will be considered individually by the Admissions Committee.

The Committee shall review the academic background, personal qualities, work experience, and request a personal interview wherever possible. The recommendations of the Committee shall be forwarded to the Dean of the Graduate School who shall notify the applicant of the Dean's decision regarding acceptance into the departmental programs. Applicants are generally accepted once each year for the Fall semester and shall be notified of their acceptance status by March 15 of that year.

## AREAS OF CONCENTRATION

The Department offers two master's programs: Rehabilitation Counseling and Vocational Adjustment. Specific practicum and internship experiences constitute the differences between the two programs. The typical program is a 51 credit, four semester sequence of courses which combines classroom work with practical experience. The minimum number of credits needed for the degree is 42. This degree program is appropriate for those students with a minimum of 12 months of acceptable professionally related work experience or who are eligible for waiver of certain requirements based on their undergraduate preparation.

## CANDIDACY

Before filing for candidacy for the advanced degree, the student shall successfully complete, with at least a grade of "B" in each course, three required Departmental courses.

## THE MASTER OF ARTS DEGREE

The student desiring the M.A. degree should so designate on the application form, but definitely by the time of candidacy for the degree. Specific course requirements for the M.A. degree are similar to the

M.S. degree with one exception: The student must take R.C. 371 - Research Study. In addition, the student shall complete a thesis under the direction of a Departmental faculty member designated by the Chairman and successfully defend the thesis orally before three Departmental faculty. The thesis shall be a descriptive or experimental research project in an area of interest to the student which has been approved by the thesis advisor. Specific format, technical requirements, and time of submission of the thesis shall be in accord with the calendar and policies published in the Graduate School Catalog.

### **THE MASTER OF SCIENCE DEGREE**

The student desiring the M.S. degree should so designate on the application form, but definitely by the time of candidacy for the degree. The student in this non-thesis program must submit a scholarly paper which will be a critical, in-depth exposition of an area of interest to the student after approval by his mentor. Specific format, technical requirements, and time of submission of the scholarly paper shall be in accord with the calendar and policies published in the Graduate School Catalog.

### **GRADING**

Academic course grading will follow the Graduate School letter grade system. Performance in experimental courses may be evaluated on a Pass-Fail system.

### **COMPETENCY EXAMINATIONS**

Students may select to demonstrate competency in a prescribed body of knowledge through examination. A maximum of six-credits may be earned on the basis of competency examinations. Procedural details regarding fees, tuition charges, and examinations shall conform to University policy.

### **COMPREHENSIVE EXAMINATIONS**

A comprehensive examination as prescribed by the student's mentor is required of all degree candidates. This examination may be written, oral, or both. Students may apply for the comprehensive examination after successfully completing 30 graduate credits.

# REHABILITATION COUNSELING

Dr. Joseph A. Szuhay, Director of Graduate Program

## *Objective:*

To prepare Rehabilitation Counselors and related professional personnel.

## *Candidacy Requirements:*

Before applying for candidacy for degree, the student shall successfully complete the following courses:

R.C. 301 - Introduction to Rehabilitation Services

R.C. 304 - Introduction to Research

R.C. 331 - Case Management

## *A Suggested Full-Time Schedule is as Follows:*

| <i>Fall Semester (first)</i>                            | <i>Semester Hours</i> |
|---|-----------------------|
| *R.C. 301 Introduction to Rehabilitation Services ..... | 3                     |
| R.C. 302 Human Dynamics .....                           | 3                     |
| R.C. 311 Psycho-Social Problems .....                   | 3                     |
| R.C. 321 Human Assessment I .....                       | 3                     |
| R.C. 331 Case Management .....                          | 3                     |
|   | <hr/>                 |
|   | 15                    |

## *Spring Semester (second)*

|   |       |
|---|-------|
| R.C. 303 Vocational Development, Evaluation, and Adjustment | 3     |
| *R.C. 304 Introduction to Research .....                    | 3     |
| R.C. 312 Physical and Visual Disability .....               | 3     |
| R.C. 313 Mental and Emotional Handicaps .....               | 3     |
| *R.C. 322 Human Assessment II .....                         | 3     |
| *R.C. 332 Counseling Theories and Techniques .....          | 3     |
|   | <hr/> |
| (elect) .....   | 15    |

## *Fall Semester (third)*

|  |       |
|--|-------|
| R.C. 314 Correctional Rehabilitation .....             | 3     |
| R.C. 333 Group Counseling and Dynamics .....           | 3     |
| R.C. 334 Behavior Modification and Therapy .....       | 3     |
| R.C. 341 Principles of Supervision .....               | 3     |
| *R.C. 361 Practicum in Rehabilitation Counseling ..... | 3     |
|  | <hr/> |
| (elect) .....  | 12    |

## *Spring Semester (fourth)*

|   |       |
|---|-------|
| *R.C. 362 Internship in Rehabilitation Counseling ..... | 9     |
|   | <hr/> |
| <i>Total Credits:</i> 51                                | 9     |

## *\*Required Courses*

R.C. 371 Research Study may be taken any semester with approval of Mentor and Departmental Chairman.

# VOCATIONAL ADJUSTMENT

Dr. Joseph A. Szuhay, Director of Graduate Program

*Objective:*

To prepare professional personnel for the field of vocational adjustment services.

*Candidacy Requirements:*

Same as Rehabilitation Counseling Program

*Program:*

The student will enroll for the same courses required for the Rehabilitation Counseling Program with two exceptions: He will add VOAD 361 - Practicum in Vocational Adjustment and substitute VOAD 362 - Internship in Vocational Adjustment for R.C. 362 - Internship in Rehabilitation Counseling.

# Course Descriptions

## REHABILITATION COUNSELING AND VOCATIONAL ADJUSTMENT

### R.C. 301 *Introduction to Rehabilitation Services* 3 credits

The philosophical, historical, and legal bases of rehabilitation services are examined. The role of various professionals and community agencies involved in the rehabilitation process is examined.

### R.C. 302 *Human Dynamics* 3 credits

Designed to increase the student's awareness of his needs, his impact on other persons, and the demands of his environment. Human dynamics are illustrated and experienced in small group interactions.

### R.C. 303 *Vocational Development, Evaluation, and Adjustment* 3 credits

Theories of occupational choice and career development are studied from the viewpoint of disabled individuals. Vocational evaluation and work adjustment concepts as utilized in sheltered workshops are presented.

### R.C. 304 *Introduction to Research* 3 credits

General statistical and research methods are examined as well as specific applications in the field of rehabilitation. The student is expected to develop, in consultation with the mentor, a topic and methodology of study suitable for the scholarly paper or thesis. Pre-requisite - R.C. 321.

### R.C. 305 *Issues in Rehabilitation Counseling* 3 credits

The course provides an overview of the profession as well as in-depth study of selected areas in counseling, testing, research, philosophy and legal aspects of rehabilitation counseling.

### R.C. 306 *Guided Field Experience in Rehabilitation* 3 credits

Directed group observation and discussion of habilitation and rehabilitation services provided in a variety of community agencies, hospitals, clinics, therapeutic centers, halfway houses, drop-in centers, work training centers, group-living homes for the handicapped, and rehabilitation centers.

### R.C. 311 *Psycho-Social Problems* 3 credits

The problems of drug and alcohol dependency, aged, severely disabled, and social-cultural disadvantage are examined. Treatment approaches and facilities are illustrated and discussed through a combination of field visits and visiting lecturers.

### R.C. 312 *Physical and Visual Disability* 3 credits

The most common physical and visual disabilities with which rehabilitation counselors deal are discussed including symptomatology, residual functioning, psychological correlates, and rehabilitation treatment.

R.C. 313 *Mental and Emotional Handicaps* 3 credits

Designed to familiarize the student with the problems of and associated with mental and emotional handicaps. Treatment approaches and facilities are illustrated and discussed through a combination of field visits and visiting lecturers.

R.C. 314 *Correctional Rehabilitation* 3 credits

The course examines a broad spectrum of the criminal justice rehabilitation system which includes rehabilitation aspects of various types of prisons, community treatment approaches as well as probation and parole. The role of the correctional rehabilitation counselor is emphasized through the case study method.

R.C. 321 *Human Assessment I* 3 credits

Focuses on the statistical and research basis of psychological testing. Intelligence and aptitudes are conceptualized and the student gains familiarity with the clinical use of these tests in rehabilitation counseling.

R.C. 322 *Human Assessment II* 3 credits

Emphasis is on the conceptualization of interests, values, and personality and procedures and instruments for assessing these. The student gains familiarity with commonly used tests and inventories of interest, value, and personality assessment. Pre-requisite - R.C. 321.

R.C. 331 *Case Management* 3 credits

The role of the rehabilitation counselor as a case manager or coordinator of services is examined. A case study approach is utilized.

R.C. 332 *Counseling Theories and Techniques* 3 credits

Selected theories and techniques of counseling are discussed and examined through a combination of lecture, discussion, and role playing activities. Application to different types of rehabilitation clients is discussed. Pre-requisite - R.C. 331.

R.C. 333 *Group Counseling and Dynamics* 3 credits

Selected theories, techniques, and research in group counseling and dynamics are discussed with particular emphasis on application in rehabilitation treatment and supervision.

R.C. 334 *Behavior Modification and Therapy* 3 credits

The literature on behavior modification and therapy is examined with particular emphasis on the application in rehabilitation facilities such as sheltered workshops, half-way houses, correctional facilities and mental institutions.

R.C. 341 *Principles of Supervision* 3 credits

Administrative and supervisory principles and practices are covered. Included are leadership and supervisory roles and functions, staff development practices, and personnel utilization and maximization. Problems are illustrated in case studies.



R.C. 361 *Practicum in Rehabilitation Counseling* 3-6 credits

Focuses on necessary and desirable counseling skills, development of counseling relationships, and case conceptualization. Practical application of counseling theories and techniques, psychological testing, and vocational development theory is emphasized. (Pre-requisites 301, 303, 304, 322, 332).

R.C. 362 *Internship in Rehabilitation Counseling* (variable credit to 9)

Full time placement in a community rehabilitation agency, facility, or institution involving 600 clock hours of supervised experience.

R.C. 371 *Research Study* 3 - 6 credits

Designed for students who are working on independent projects or required for M.A. degree candidates. Registration with permission of student's mentor and Department Chairman.

VOAD 361 *Practicum in Vocational Adjustment* 3 credits

Selective placement in one of two participating community rehabilitation agencies, facilities, or institutions providing vocational evaluation and/or work adjustment services. (Pre-requisites 301, 303, 304, 322, 332).

VOAD 362 *Internship in Vocational Adjustment* (variable credit to 9)

Full-time assignment in a community rehabilitation agency, facility, or institution providing vocational evaluation and/or work adjustment services, with approximately 600 clock hours of supervised experience.

# Department of Business Administration

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Dr. Joseph R. Zandarski, Chairman  
Prof. W. E. Katorkas, Director

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## DEPARTMENTAL REQUIREMENTS

The applicant for admission should possess the baccalaureate degree in Business Administration and provide the Admissions Committee with evidence of sufficient undergraduate preparation of good quality in Business Administration or Accounting.

A minimum undergraduate quality point average of 2.4 (on the basis of "A" equals 4.0) will be required. An applicant unable to satisfy this requirement may be admitted on the basis of an acceptable score on a national examination such as, the Graduate Management Admission Test, the Graduate Record Examination or the Miller Analogies Test.

If a student possesses a baccalaureate degree other than in Business, background preparation is expected in the following areas: Accounting, Statistics, Micro-Economics, Macro-Economics and Business Law. Additional undergraduate work may be required in the areas of Finance, Marketing or Management, depending upon the student's M.B.A. concentration, his undergraduate preparation, and his work experience. A student who has been given Provisional acceptance (some prerequisites needed) may request exemption from one or more prerequisites if he feels he has sufficient background preparation in these areas. The determination of the student's background knowledge in the area (s) in question will be by written examination (s). Application forms for such examination (s) can be obtained from the Dean of the Graduate School. (See fee schedule for cost of examination)

## COURSE REQUIREMENTS

All students who intend to work for the degree of Master of Business Administration must take a basic core of courses in the field of Business Administration amounting to 12 credits. Students who have had differential calculus will substitute an elective course for Business 209. Eighteen additional credits are required in courses to be elected from the areas of Accounting, Management, Finance, Marketing and Economics. Nine credits must be obtained in one of

these fields of concentration, while the remaining nine may be in any of the other fields. Thus, the total number of credits required for graduation is thirty.

Under certain circumstances and with mentor recommendation, a student may be permitted to substitute approved University of Scranton upper-division undergraduate credits in Business and Economics as part of his graduate program. Students should consult their mentors regarding details and regulations concerning such substitutions.

## **CANDIDACY**

Students seeking the M.B.A. degree must, before completing nine graduate credits in Business Administration, file an application for candidacy. On receipt of this application and the completion of nine graduate credits in Business Administration, the student's record will be reviewed by his mentor and the Chairman of the Department to determine that all prerequisites have been met and to appraise his potential for successful completion of graduate work and growth in his field. No one will be permitted to continue his credits toward the M.B.A. degree until he has been formally admitted to candidacy.

## **MASTER OF SCIENCE IN BUSINESS**

### **Correlated Program**

For a Master of Science in Business correlated with education, kindly refer to the criteria outlined by the Department of Education, the Division of Graduate Secondary Education and the Programs of Correlated Studies for application procedures and degree requirements.

## **PROGRAM IN BUSINESS ADMINISTRATION**

### **Core Courses**

- Bus. 200 Business Research Methodology
- Bus. 205 Managerial Economics
- Bus. 209 Mathematics for Business
- Bus. 215 Business Policy

### **Advanced Courses—Electives**

- Bus. 222 Advanced Auditing
- Bus. 223 Advanced Accounting Theory
- Bus. 224 Advanced Federal Tax Theory
- Bus. 225 Accounting Systems
- Bus. 242 Quantitative Management
- Bus. 244 Labor - Management Problems
- Bus. 246 Management of Human Resources
- Bus. 260 Marketing Management

- Bus. 261 Marketing Research
- Bus. 262 Sales and Advertising Problems
- Bus. 270 Information Processing Systems
- Bus. 280 Financial Management
- Bus. 281 Financial Institutions
- Bus. 283 Investment Analysis
- Bus. 290 Business Conditions Analysis
- Bus. 292 Urban Economic Problems
- Bus. 294 Economics of Taxation
- Bus. 295 Government Regulation of Business

**COURSE PROJECTION: BUSINESS ADMINISTRATION**

| Courses | Fa<br>75 | Sp<br>76 | Su<br>76 | Fa<br>76 | Sp<br>77 |
|---------|----------|----------|----------|----------|----------|
| 200     | x        | x        |          | x        | x        |
| 205     | x        | x        | x        | x        | x        |
| 209     | x        |          | x        | x        | x        |
| 215     | x        | x        |          | x        | x        |
| 222     |          | x        | x        |          | x        |
| 223     | x        |          |          | x        |          |
| 224     | x        |          |          | x        |          |
| 225     |          | x        |          |          | x        |
| 242     |          | x        |          |          | x        |
| 244     | x        | x        |          | x        | x        |
| 246     | x        | x        |          | x        | x        |
| 260     |          | x        | x        |          | x        |
| 261     | x        |          |          | x        |          |
| 262     |          | x        |          |          | x        |
| 270     | x        | x        |          | x        |          |
| 280     | x        |          | x        | x        |          |
| 281     | x        | x        |          | x        |          |
| 283     |          | x        |          |          | x        |
| 290     |          |          | x        |          |          |
| 292     | x        |          |          | x        |          |
| 294     | x        | x        |          |          | x        |
| 295     |          | x        |          |          | x        |

# Course Descriptions - Business

## CORE COURSES

Bus. 200. *Research Methodology* 3 credits

Research methods in business and economics, with special attention to research techniques, application of quantitative method, bibliographic sources, and preparation of written research findings. This course should be taken the first time it is offered after the student is admitted to the program.

Bus. 205. *Managerial Economics (Prerequisite - Bus. 209)* 3 credits

An intensive study of the problems of value and costs, including supply and demand, cost analysis and pricing theories, monopoly and competition, price control and allocation, and policies of the government as they affect prices.

Bus. 209. *Mathematics for Business* 3 credits

An introduction to various mathematical methods useful in the solution of business problems. Topics include simple functions, limits of a function, some differential and integral calculus, and some of their applications to business problems. If the student has passed a course in calculus, he may substitute any elective for this course.

Bus. 215. *Business Policy* 3 credits

Starting with conceptual and institutional foundations of business, the course covers the philosophy, history and ethics of business policy, culminating in the specific areas of policy, accounting, finance, marketing and management. This course should be taken in the last semester of the student's program, and only after all other core and major courses are completed.

## ADVANCED COURSES—ELECTIVES

Bus. 222. *Advanced Auditing* 3 credits

Audit of income statement and selected balance sheet items. The Audit Report. Internal Auditing. Ethics of the Profession. Audit Case Problems. Admission with consent of instructor.

Bus. 223. *Advanced Accounting Theory* 3 credits

A study of the theories underlying accounting principles and the application of these theories and principles in specific situations. Current literature taken from various accounting periodicals and recent C.P.A. examinations will be used extensively. Emphasis is placed on the importance of high standards in the accounting profession and its importance to management. Admission with consent of instructor.

Bus. 224. *Advanced Federal Tax Theory* 3 credits

Corporation Income Taxes, with special emphasis on current Internal Revenue Service regulations. Partnerships included. Admission with consent of instructor.

Bus. 225. *Accounting Systems* 3 credits

How to make an accounting survey of a business, select the methods to be used, design the system of procedures and prepare the systems report for businesses of varied types and sizes.

Admission with consent of instructor.

Bus. 242. *Quantitative Management* 3 credits

The quantitative approach to managerial problems of planning and controlling the design and operation of business enterprises. Topics include the use of personal probability as a basis for rational decision making, and operations research techniques including mathematical programming, queues, simulation and inventory theory. (Prerequisite: Bus. 209 or its equivalent)

Bus. 244. *Labor-Management Problems* 3 credits

An analysis of the policies of employers, organized labor and the government, in attempting to solve labor-management problems, with an appraisal of the results. Discussions include evaluations of social, economic and legal trends as well as leading cases on the subject.

Bus. 246. *Management of Human Resources* 3 credits

An understanding of manpower development, objectives, and policies involved in a business enterprise as found in a sound industrial relations program.

Bus. 260. *Marketing Management* 3 credits

The many legal, competitive, social and administrative problems which face the marketing executive and the methods and tools used in solving these problems. Factual cases will be used throughout the course.

Bus. 261. *Marketing Research* 3 credits

Research techniques used in solving marketing problems in both motivation and product research, including research methods and design, questionnaire construction, sampling and analysis; the contributions of the behavioral sciences to marketing research.

Bus. 262. *Sales and Advertising Problems* 3 credits

Advertising and the sales efforts as tools of management in marketing industrial and consumer goods and services, and the effectiveness of these tools in achieving their marketing objectives.

Bus. 270. *Information Processing Systems* 3 credits

Characteristics of programming, software systems, electronic digital computers and allied devices for storing, processing, and transmitting information in business organizations. An overview of MIS throughout the business firm with emphasis on computer-based systems and their application. An introduction to techniques for integrating and evaluating such information to assist management in decision making, involving basic concepts of computer systems and programming languages such as Fortran and Cobal.

Bus. 280. *Financial Management* 3 credits

Principles of policy formulation in the modern corporation; the institutions, instruments and customary procedures that influence the determination of corporate policy; and the reasons for choices in seeking solutions to specific financial problems.

Bus. 281. *Financial Institutions* 3 credits

A detailed survey of the more important financial institutions of the United States in order to determine their functions and inter-relations in the national economy, and their importance in the various fields of business administration.

Bus. 283. *Investment Analysis* 3 credits

The investment markets and the financial analysis of various types of investments including industrial, railroad, utility, financial institutions, real estate, government, municipal and foreign securities; the mathematics and mechanics of investments.

Bus. 290. *Business Conditions Analysis* 3 credits

A critical evaluation of gross national product, disposable personal income, population changes, rate of economic growth, and their effects on sales. Methods of forecasting sales of capital goods, durable and non-durable consumer goods.

Bus. 292. *Urban economic problems* 3 credits

An economic analysis of contemporary urban problems. Income distribution and urban housing; population; health and welfare in urban areas; urban transportation; crime, delinquency and rehabilitation; urban environment; and energy crisis.

Bus. 294. *Economics of Taxation* 3 credits

History, theories, general principles, and problems of taxation. Personal and corporate income taxes, sales taxes, property taxes, gift, estate and inheritance taxes, payroll taxes, and negative income tax proposals.

Bus. 295. *Government regulation of Business* 3 credits

This course traces the effects of alternative market structures on business conduct, and hence economic performance of an industry. These effects form the basis for government intervention into the private sector.

Bus. 296. *Research Seminar* variable credit

Designed for students who are working on directed research projects. Registration is only with permission of the Department Chairman and the Dean.

# Department of English

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Dr. John M. McInerney, Chairman and Director of  
Graduate Program

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## DEPARTMENTAL REQUIREMENTS

The applicant must, prior to the start of his graduate program, possess a baccalaureate degree; and must have completed on the undergraduate upper-division level a minimum of eighteen semester hours in English; and must, further, have a quality point index of not less than 2.5 (of a possible 4.0) in his upper-division courses in English. The applicant will, normally, be admitted to candidacy after the successful completion of nine graduate credits in English and the recommendation of the Departmental graduate committee. Applicants who have achieved satisfactory scores on the advanced literature section of the Graduate Record Examination prior to admission (scores to be reviewed by the graduate committee) may be considered degree candidates immediately. The Department recommends that all applicants take the G.R.E., particularly those who contemplate proceeding to the doctorate. No student may continue to take credits towards a degree (after nine hours of course work) who has not been formally notified of his admission to candidacy by the Department.

## COURSE REQUIREMENTS

### A. Master of Arts in English

Candidates for the degree of Master of Arts in English may select a thesis or non-thesis program.

#### A 1. Thesis Program

The M.A. thesis program will require the student to complete successfully 27 credits in courses in English, as outlined below; pass a comprehensive requirement; and present a critical study (dissertation) of no less than 12,000 words. The comprehensive examination for the M.A. (thesis) will be an oral examination, in which the candidate will defend his dissertation and be questioned on literary material from the area of his thesis and two other major areas of English or American literature. The specific areas for each student's oral examination will be established by the student and his mentor, based on the thesis topic.



The specific course requirement for the M.A. (thesis and non-thesis) is English 200: Introduction to Research and Linguistics (three credits). The remaining 24 hours of credit for the M.A. (thesis) are to be taken in courses approved by the student's mentor. These courses should be so chosen as to combine student interest in certain periods and genres, and coverage, both in range and depth, of the fields of British and American literature. The 30 credit hours necessary for the M.A. (thesis) are completed with the three hours granted for the dissertation.

## **A 2. Non-Thesis Program**

The M.A. non-thesis program requires the student to complete successfully 33 credits in courses in English, including English 200; and pass a written comprehensive examination. All students entering the M.A. (non-thesis) program after August 31, 1971, will take a written comprehensive based on a departmental reading list which will be distributed to students at the time of admission. Students enrolled in the program prior to that date have the option of taking the "old" M.A. comprehensive, or the "new" reading list comprehensive.

## **B. Master of Science in English - Correlated Program**

For a Master of Science in English correlated with education, kindly refer to the criteria outlined by the Department of Education, the Division of Graduate Secondary Education and the Programs of Correlated Studies for application procedures and degree requirements.

## **MODERN LANGUAGE REQUIREMENT**

If the M.A. degree is to be a terminal degree, students will not be required to satisfy a modern language requirement. Nor will there be a modern language requirement for students following the Master of Science (correlated) program. Students intending to continue graduate studies elsewhere to the doctoral level should, however, fulfill the modern language requirement by successfully completing a reading examination in the language of their choice, before taking the M.A. degree. The language, normally, would be either French or German.

## **FIVE YEAR PROGRAM**

A special five year program leading to the Master of Arts degree in English has been developed, which makes it possible for a student to obtain both the A.B. and M.A. degrees within this prescribed period. Undergraduate majors in English, at either the University of Scranton or College Misericordia, may apply for admission to the program

during the second semester of their Sophomore year (prior to the pre-registration period). Acceptance into the program is determined by a Departmental Board of Review. The student, after acceptance, is required to attend two summer sessions (between the Sophomore and Junior years; and the Junior and Senior years), to acquire approximately 15 undergraduate credits. This acceleration would make it possible for him to complete requirements for the bachelor's degree at the end of the first semester of his fourth year. He would then begin his graduate program during the spring semester of the fourth year; attend the following summer session; and complete the graduate program and receive the M.A. degree in May of the fifth year.

A sample program will be found below; but there are many other possible variations:

- A. *Spring Semester, Fourth Year*  
Six - Nine graduate credits
- B. *Summer Session - After Fourth Year*  
Six graduate credits
- C. *Fall Semester, Fifth Year*  
Nine - twelve graduate credits
- D. *Spring Semester, Fifth Year*  
Three graduate credits and M.A. Thesis

## Course Descriptions - English

English 200. *Introduction to Research and Linguistics* 3 credits

A survey of a selective list of books and periodicals that every student of literature should read; also an introduction to the general science of linguistics.

English 205. *Modern Grammar in the English Curriculum* 3 credits

The theory of transformational grammar, studied against such other theories as prescriptivism, structuralism and case grammar, in practical application to the high school and college English curriculum.

English 206. *Composition in the English Curriculum* 3 credits

Designed for both high school and junior college English teachers, this course will review traditional composition programs and approaches, explore innovative programs and methods, and consider the place of composition in a variety of curricula.

English 207. *Literature in the English Curriculum* 3 credits

In considering strategies for selecting, organizing, and teaching high school literature, this course will explore the central question of what a sequential, well-balanced, efficient program in literature should consist of. It will include adolescent literature, themes, genres, socio-political movements, thematic and short courses, autotutorial devices or systems, and inquiry methods.

English 211. *Medieval English Literature* 3 credits

A critical study of the major literary works in English of the Middle Ages, from **Beowulf** through **Everyman**.

English 214. *Chaucer, The Canterbury Tales* 3 credits

A detailed examination of the general structure of **The Canterbury Tales** and of the individual tales, with attention to specialized critical tools and techniques, and to various critical approaches to Chaucer.

English 215. *Chaucer, Troilus and Minor Poems* 3 credits

Close study of Chaucer's poetry other than **The Canterbury Tales**, with particular emphasis on **Troilus and Criseyde**.

English 220. *Shakespeare and Other Elizabethan*

*Dramatists I*

3 credits

A careful study of Shakespeare's plays written before 1600, together with selected plays of Marlowe, Kyd, Greene, and Peele.

English 221. *Shakespeare and Other Elizabethan*

*Dramatists II*

3 credits

A careful study of Shakespeare's plays written after 1600, together with selected plays by Jonson, Chapman, Dekker, Beaumont, Fletcher, Tourneur, Marston, Middleton, Massinger, and Ford.

- English 231. *Sixteenth Century Literature* 3 credits  
Poetry and prose of the English Renaissance, with special attention to the new birth of poetic form; examination in depth of the great poetic achievements of Sidney, Spenser, and Shakespeare.
- English 232. *Seventeenth Century Literature* 3 credits  
A study in depth of the major British authors of the seventeenth century other than Milton.
- English 234. *Milton* 3 credits  
An appreciation of John Milton as poet, critic, and innovator, together with a critical survey of the poet's sources, poetical works, and literary forms.
- English 236. *Augustan Studies* 3 credits  
A study in depth of the major works of John Dryden, Alexander Pope, Jonathan Swift, Joseph Addison, Richard Steele, and William Congreve.
- English 238. *Dr. Johnson and His Age* 3 credits  
The work of Johnson and his contemporaries studied in the light of the social, political, and intellectual background of the second half of the eighteenth century.
- English 239. *The English Novel, Defoe through Austen* 3 credits  
Readings of selected novels of the eighteenth and early nineteenth centuries, with emphasis on the literary, social, and intellectual sources of the novel.
- English 240. *Romantic Poetry and Criticism* 3 credits  
An examination of the poetry and critical writings of the major romantic poets. The aim is not an exhaustive survey but an intensive study of several of the following: Blake, Wordsworth, Coleridge, Byron, Shelley, Keats.
- English 243. *Victorian Poetry and Non-Fictional Prose* 3 credits  
An examination of Victorian poetry and non-fictional prose in the light of its social, political, and intellectual backgrounds. The aim is not an exhaustive survey but an intensive study of several of the following: Tennyson, Browning, Arnold, the Pre-Raphaelites, Carlyle, Newman, Ruskin and Pater.
- English 244. *The English Novel, Dickens through Hardy* 3 credits  
Readings in selected Victorian novels in the light of the social, political, and intellectual backgrounds of the age, with emphasis on the artistic development of the novel.
- English 250. *Studies in Modern Poetry* 3 credits  
An intensive study of trends and techniques in such major twentieth century poets as Hopkins, Yeats, Auden, Dylan Thomas, Frost, Stevens and Eliot.
- English 252. *Modern British Fiction* 3 credits  
Readings of selected twentieth century novels in the light of the social, political, and intellectual background of the times. Such major British

novelists of the century as Conrad, Joyce, D. H. Lawrence, E. M. Forster, Greene, Waugh, Virginia Woolf, and Muriel Spark will be included.

English 254. *Modern Drama* 3 credits

The development of drama (Continental, British, Irish, and American) from Ibsen to the present day. Among playwrights whose works will be read and studied are: Ibsen, Strindberg, Chekhov, Synge, Yeats, O'Casey, Shaw, Osborne, Pinter, Brecht, Anouilh, Ionesco, Beckett, O'Neill, Anderson, Wilder, Inge, and Albee.

English 256. *American Romanticism and Transcendentalism* 3 credits

Studies in the major works of Cooper, Poe, Hawthorne, Emerson, and Melville.

English 257. *American Realism and Naturalism* 3 credits

Studies in the major works of Twain, Crane, Norris, James, and Howells.

English 259. *Twentieth Century American Fiction* 3 credits

Modern American novels and short stories. The period from 1900 to the present will be covered, emphasizing such major figures as Fitzgerald, Hemingway, Faulkner, Steinbeck, and Barth.

(N.B. Each of the following seminars will involve concentrated study of a single literary figure, movement, or genre. The particular subject of each seminar will vary each year.)

English 270. *Seminar: Special Studies in English Literature* 3 credits

English 271. *Seminar: Special Studies in American Literature* 3 credits

English 272. *Seminar: Special Studies in Comparative Literature* 3 credits

English 280. *Afro-American Literature* 3 credits

An introductory survey of Afro-American literature, stressing an in-depth examination of the works of Afro-Americans in poetry, song, drama, the novel, the essay, and the slave narrative. Emphasis will be placed on the relationship between the Afro-American experience and the African experience. The period covered is from the founding of the American nation to the present day.

A tentative cycle indicating when courses will be offered is available from the Department. Please see the chairman.

# Department of History

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Prof. Timothy H. Scully, Chairman and Director of Graduate Program

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## DEPARTMENTAL REQUIREMENTS

The applicant must possess the baccalaureate degree and should as an undergraduate have completed a minimum of 18 upper-division semester hours in History, six of which must be in American History. Courses in Government, Political Science or cognate fields may round out the 12 other required undergraduate elective credits. The applicant should have a Quality Point Index of not less than 2.5 in all his undergraduate course work or have attained a score of 500 on the GRE. He will be considered as non-matriculated until he has successfully completed nine graduate credits in History and filed formal application for candidacy. In the event that significant gaps occur in the student's undergraduate background, additional graduate courses may be specified by the mentor. His acceptance as a candidate will be decided at that time by the History Department, after their appraisal of his capability for continued growth as a graduate student. No student may continue to take credits toward the degree until he has been notified of his acceptance as a candidate. At that time his mentor will be appointed.

## MASTER OF ARTS IN HISTORY

Candidates for the Master of Arts in History may select a thesis or non-thesis program. The thesis program will require the student to complete successfully twenty-seven credits in courses described below, pass the Comprehensive Examination and present an acceptable dissertation for which three credits are allowed. The thesis topic must be approved by the student's mentor under whose active direction the dissertation should be satisfactorily completed.

The non-thesis program will require the student to complete successfully thirty-three credits in History courses and pass a Comprehensive Examination. Students concentrating in History and selecting a minor in another field may take credits in English, Education, or Psychology. These minor courses should be integrated with the student's program and are subject to the mentor's approval.

## **COMPREHENSIVE EXAMINATIONS**

All candidates for the Comprehensive Examination in History must have:

- (1) the approval of the mentor
- (2) completed a minimum of 21 course credits in History. This includes History 200 and at least three sequential (two semester) courses. Waivers may be based on individual cases).

## **MASTER OF SCIENCE IN HISTORY** **Correlated Program**

For a Master of Science in History correlated with education, kindly refer to the criteria outlined by the Department of Education, the Division of Graduate Secondary Education and the Programs of Correlated Studies for application procedures and degree requirements.

## Course Descriptions - History

Hist. 200. *Science and Methods of American Historians* 3 credits

A study and application of the scientific methodology required for gathering, assessing, synthesizing, and documenting historical information. Special attention will be given to the American historians who typify the distinct traditional approach and to those who represent significant departures from that trend.

Hist. 203. *History of the American Presidency* 3 credits

American Party System in selection of the President will serve as an introduction to a detailed analysis of the office, functions and powers of the Chief Executive.

Hist. 205. *History of American Federalism* 3 credits

Evolution, development and changes in federal and state relations, with an analysis of the forces influencing these changes, in contemporary times.

Hist. 208. *The American Heritage I* 3 credits

Influences affecting the development of the American Nation; puritanism and its effect on the colonial experience; controversy occasioned by the Revolution of 1776; Hamiltonian and Jeffersonian ideals at work; implications of the Secessionist and Slave controversies on American institutional life.

Hist. 209. *The American Heritage II* 3 credits

Impact of Reconstruction; Social Darwinism; Imperialism; Liberalism and Conservatism on Contemporary American Institutions form the basis of evaluation and interpretation.

Hist. 210. *American Constitutional Law and History I* 3 credits

Emphasis on the bases of American constitutionalism, the Federal Convention, the development of the judicial process, states rights vs. nationalism, Marshall and Taney Courts, and other issues which led to the Civil War.

Hist. 211. *American Constitutional Law and History II* 3 credits

The Fourteenth Amendment will initiate the second phase of this course. Problems dealing with Federalism, civil liberties and religious freedom will be treated.

Hist. 212. *Development of American Civilization I* 3 credits

The leading economic, social and cultural aspects of American life; study of the economic, religious and intellectual bases of colonial American life; the impact of the Revolution; development of towns and country life; sectional differences; early labor movements; growth of democracy and reform movements.

Hist. 213. *Development of American Civilization II* 3 credits

A continuation of the above course from 1865 to the present. The growth of industry, agriculture and agrarian discontent; the waning frontier; labor and immigration; literature and the arts; the diffusion of knowledge, religious tendencies.



Hist. 214. *American Foreign Relations:  
Revolution to Imperialism* 3 credits

A study of America's use of diplomacy as an instrument of national self-interest in its rise from infant republic to world power.

Hist. 215. *American Foreign Relations:  
"Big Stick" Diplomacy to the Present* 3 credits

Survey of involvements that world power status meant for the U. S. viz.: the Caribbean; two World Wars; Pan Americanism; free world security since 1945.

Hist. 217. *American Foreign Relations: Special Topics* 3 credits

A comprehensive study of selected topics, covering the entire range of U. S. foreign relations. Admission based on tangible proof of survey courses in the field.

Hist. 218. *Political and Social History I:  
Colonial America to 1783* 3 credits

European beginnings — the English settlements; colonial society and politics; the struggle for the Mississippi Valley; the War of Independence.

Hist. 220. *Political and Social History of U. S. II:  
1789-1852* 3 credits

American internal developments in the early years of the Constitution and the early Presidents, Jacksonian democracy's impact on American life; the impulse toward territorial expansion and the sharpening of regional clashes.

Hist. 222. *Political and Social History of U. S. III:  
1852-1900* 3 credits

Analysis of the social, economic and political conditions that resulted in the struggle for Southern Independence; the war years in the North and the South; Reconstruction, big business; organized labor; internal political issues from Andrew Johnson to Theodore Roosevelt.

Hist. 224. *Political and Social History of U. S. IV:  
1900 - Present* 3 credits

Tracing American development after 1900, stress will be placed upon the Roosevelt Era and its Progressivism, Wilson's New Freedom and the problems of World War I. The return to "normalcy," the Great Depression and the New Deal; F. D. Roosevelt and world politics, the origins and aftermath of World War II.

Hist. 228. *The American Heritage III* 3 credits

A study of contemporary political thought as approached by the methodologies of behavioralism, formalism and functionalism.

Hist. 229. *America and World Leadership* 3 credits

A study of America's role and relationship to contemporary international institutions and world problems.

Hist. 230. *Seminar: Contemporary Historical Problems* 3 credits

A empirical approach to modern historical phenomenon.

Hist. 231. *Urban History* 3 credits  
The role of the city in the development of the American nation.

Hist. 237.1 *Teaching of History and Social Science* 3 credits  
A consideration of the objectives of social studies, organizing the subject matter, textual and non-textual materials, the social studies curriculum, outcomes and their evaluation.

Hist. 238. *The American Party System* 3 credits  
A historical treatment of the evolution of the two party system in the United States. Special emphasis will be given to the **modus operandi** of a political party, the ingredients of electoral success, and the relationship of the party system to national policy.

Hist. 239. *Nineteenth Century Europe* 3 credits  
A detailed study of the social, intellectual, and revolutionary character of Nineteenth Century Europe. Special emphasis will be on the ideological developments which influenced European attitudes.

Hist. 240. *The Cold War* 3 credits  
An examination of the major international developments since World War II; the partition of Germany; Arab-Israeli conflict; the emergence of the Third World; the fragmentation of the Soviet bloc; the war in Vietnam and the Sino American detente. Special attention will be given domestic factors influencing American foreign policy during the Cold War.

Hist. 241. *Colonial Latin America* 3 credits  
A study of the colonial institutions - political, economic, social, and religious of Spanish and Portuguese American from Conquest to Independence.

Hist. 242. *Latin America Since Independence* 3 credits  
A study of the development of Latin America from independence to the present day with emphasis on the politico-economic history and foreign relations of its principal countries.

Hist. 243. *The Era of the American Revolution* 3 credits  
Backgrounds, causes and course of events leading to the American Revolution.

Hist. 244. *Twentieth Century Europe* 3 credits  
An evaluation and analysis of the major events of this century as they affect the major political states of Europe.

Hist. 300. *Contemporary Foreign Problems* 3 credits  
A modular approach to the critical current problems facing the United States in dealing with other national states.

Hist. 301. *The Ethnic Experience* 3 credits  
This graduate course will utilize a multi-media approach to the study of the various ethnic groups in America and Northeastern Pennsylvania in particular.



## DR. UMBAY BURTI

Professor

Emeritus

(1975)

This edition of the catalog marks the first time that the name of Dr. Umbay Burti is not identified as Chairman of the Chemistry Department. The veteran educator, a member of the University of Scranton Chemistry Department for the past forty years, has retired and the Graduate School takes this opportunity to thank him for his long and faithful service.

A native of Old Forge, Dr. Burti joined the U. of S. faculty in 1935 and was named chairman of the Chemistry Department in 1950. In 1957, he was made an honorary member of the Lackawanna Medical Society.

In 1968, he received the St. Thomas Moore Award as the outstanding Catholic layman of the year in the Diocese of Scranton.

He has been a member of the board of directors of the Purple Club, Scranton Chapter American Red Cross, St. Michael's School For Boys, Old Forge School District, Lackawanna County Chapter Pennsylvania Association For Retarded Children, Allied Services For the Handicapped, and Child Guidance and Mental Health Center.

He has served as president and treasurer of St. Mary's Holy Name Society, Old Forge; treasurer of the Diocesan Retreat League; president and vice-president of the Lower Lackawanna Deanery Council of Catholic Men; president and treasurer of the Scranton Diocesan Council of Catholic Men; president of the local chapter of Pennsylvania Association For Retarded Children; treasurer and vice-president of Allied Services For the Handicapped.

He also has been active in the geographic divisions of the United Way campaigns.

In 1968 and 1970, he served as adult chairman of the Lackawanna County Committee to the White House Conference on Children and Youth. In 1969, he participated in the annual meeting of the President's Committee on the Employment of the Handicapped.

He is the author of numerous research articles and he holds membership in several scientific organizations.

He was elected as a fellow of both the American Institute of Chemists and the American Association For the Advancement of Science.

Dr. Burti received a bachelor of science degree in chemistry from the University of Scranton in June of 1935. He was awarded the honorary doctor of laws degree from the U. of S. in 1965.

He resides with his wife, the former Sue Genova, at 215 E. Morton St., Old Forge. They are the parents of four daughters.

# Department of Chemistry

Dr. Martin D. Appleton, Chairman and Director of Graduate Program

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## DEPARTMENTAL REQUIREMENTS

The applicant must, at the time of application, possess a baccalaureate degree and have ordinarily completed on the undergraduate level General and Analytical Chemistry and one full year's course in each of the following: Organic Chemistry, Physical Chemistry, General Physics, and Mathematics through Integral Calculus. Further, the applicant must have an over-all Quality Point Index of 2.5, with 2.5 in the Chemistry and other Science Courses. Certain of these qualifications may be waived at the discretion of the Department Chairman.

Students with limited course deficiencies in undergraduate preparation may be admitted with the approval of the Chemistry Faculty but should correct such deficiencies concurrently with their initial graduate courses.

The applicant will not be considered matriculated to candidacy for the degree until the following requirements have been satisfied:

1. Satisfactory completion of the required courses in the Graduate Division.
2. Satisfactory completion of the Qualifying Examinations. Such examinations cover the areas of Organic, Analytical, Inorganic and Physical Chemistry. These examinations must be taken early in the first semester of the student's enrollment in the program.
3. Candidacy requirements must be fulfilled not later than the completion of eighteen credits in the Graduate Division.
4. At the discretion of his mentor, a student might be required to complete one Laboratory Preparation course in the Graduate Program, and/or a course in Chemical Literature in the Undergraduate Program.
5. At the discretion of the Department Chairman, Chemistry 252 may be required as a prerequisite to Chemistry 251 (Seminar).

The normal graduate load is 9-10 credits per semester. A Master's Degree will ordinarily require 3 to 4 semesters of study.

## COURSE REQUIREMENTS

### A. Master of Arts in Chemistry

Candidates for the degree of Master of Arts in Chemistry must complete successfully 24 credits in Chemistry, as outlined below, pass a Comprehensive Examination, and present a thesis demonstrating a distinct contribution to the field. A maximum of six (6) credit hours are allowed for the thesis which must be defended.

Prior to engaging in research relative to the thesis, the candidate must present a proposal for such research to his mentor and defend such proposal before the Chemistry Department Faculty. Arrangements are to be made with the candidate's mentor.

The specific course requirements for this degree are: Chem. 202, 211, 221, 222, 241, 242, and 251. In addition, a basic laboratory course in the student's field of specialization will be taken unless sufficient preparation in advanced techniques is established. Attendance at Departmental Seminars is mandatory. An additional six (6) credits may be selected from elective courses in the student's field of specialization (analytical, biochemistry, organic, or physical). Research under the Mentor's direction culminates in a thesis which must be defended before the chemistry faculty.

For the Master of Arts degree, success in a German, French or Russian reading examination is also one of the requirements.

### **Special Five Year Program for Undergraduates**

A special five year program leading to the Master of Arts degree has been developed to enable a high school graduate to obtain his Bachelor of Science and Masters Degree in Chemistry within this prescribed period. Undergraduates in Chemistry may apply for acceptance into the 5 year program upon completing their freshman year. Inclusion in the program involves accelerated study during the following two (2) years and the student will be expected to spend at least one entire summer, usually in his junior year, anticipating some of the usual undergraduate requirements. The senior year is divided equally between concluding undergraduate requirements and initiating fundamental or core courses of the graduate curriculum. Research, forming the bases of the thesis, will be initiated in the summer following the senior year and continue for two (2) subsequent semesters. In the fifth (5th) year, elective graduate courses for the degree are completed.

Students in this program will make formal application to the Graduate School at the end of their Junior year. The application fee is waived. Such students will retain their mentor assigned in the Undergraduate Program. The Graduate Qualifying Examinations will substitute for the Undergraduate Comprehensive Examinations.

### **B. Master of Science in Chemistry**

The Master of Science Degree is awarded for successful completion of a non-thesis program.

A student accepted for graduate study under this program clears qualifying examinations as above and similarly plans his program.

Again, limited deficiencies are corrected prior to or concurrently with graduate studies.

In this program thirty (30) course credits will be required. Core courses, as above, are: Chem. 202, 211, 221, 222, 241, 242, and 251. Additional elective courses totaling 12 credits complete the program. To provide for flexibility in the program and the undergraduate needs, one or more graduate courses in mathematics or cognate sciences may be taken as electives.

No thesis or language examination is required but comprehensive examinations are an integral part of the degree requirements.

### **C. Master of Science in Chemistry for Secondary School Teachers**

The Master of Science in Chemistry for Secondary School Teachers is designed specifically for the professional improvement of high school teachers.

Candidates for this degree must successfully complete thirty credits, fifteen of which must be in chemistry and six more in the teaching of chemistry. Great latitude is allowed in filling in the remaining nine credits. There is no language or qualifying examination requirement.

The prerequisites for this degree are not as stringent as for the others. For admission, applicants should have completed two semesters in chemistry, and one year each of college physics and mathematics.

The required core courses for this degree are: Chem. 202, 211, 222, 245 and 246. In lieu of a thesis, the student must also take Chem. 257-58, a two semester course in the teaching of high school chemistry. With his mentor's approval, the student may take his remaining nine credits in any graduate or upper division undergraduate courses that meet his needs.

### **D. Master of Arts in Biochemistry**

The M.A. program with its research emphasis prepares the student for doctoral work or for industrial employment, or research in biologically oriented enterprise.

Candidates for the degree must complete a minimum of twenty-four credits in chemistry-biochemistry as outlined below, pass comprehensive examinations and present a thesis demonstrating a contribution to the field. Up to six credit hours are allowed for the thesis.

The required core courses for the degree are Chem. 211, Chem. 222, Chem. 233, Chem 234, Chem. 242 and 251. If a student is deficient in Undergraduate Physical Chemistry he must take Chem. 245 and Chem. 246 in lieu of Chem. 242. The remaining courses may be selected from the following electives: Chem. 235, 236, 237, 263, 264

and others. A basic laboratory course in Biochemistry will be required unless sufficient preparation in advanced techniques is established. The research, culminating in a thesis, must be defended before the Chemistry Faculty. For the M.A. degree, success in German, French or Russian reading examination is required.

### **E. Master of Science in Biochemistry**

The M.S. program is designed as a terminal degree for professional improvement of Biochemists or the retraining of chemists in the field of Biochemistry.

Candidates for the degree must successfully complete 30 credits in Chemistry-Biochemistry as outlined below and pass a comprehensive examination in their major field. No thesis or language examination is required.

The Core Courses are Chem. 211, Chem. 222, Chem. 233, Chem. 234, Chem. 242, and Chem. 251. If a student is deficient in Undergraduate Physical Chemistry he must take Chem. 245 and Chem. 246 in lieu of Chem. 242. Elective courses may be selected from Chem. 235, 236, 237, 263, 264 and others. A basic laboratory course will be required in Biochemistry, unless proficiency in Biochemical techniques is established.

### **F. Correlated Master of Science in Secondary Education — Chemistry**

The correlated Master of Science Degree in Secondary Education — Chemistry is designed for the professional improvement of secondary school teachers.

After acceptance for graduate study and qualifying examinations, an integrated course of studies is arranged under the Mentor's direction. Limited deficiencies in Chemistry preparation or background will be remedied prior to or concurrently with graduate studies.

Thirty-three credits are required for the degree of which fifteen (15) will be in Chemistry and eighteen (18) in graduate education courses. The required courses in Chemistry are: Chem. 202, 221, and 241. An additional 6 credits of electives in graduate chemistry are acceptable.

Neither a thesis nor a language requirement must be fulfilled, but comprehensive examinations in Chemistry and Education are prescribed.

## Course Descriptions - Chemistry

Chem. 202. *Advanced Inorganic Chemistry* 3 credits

Theoretical concepts and their application to the reactions and structure of inorganic compounds. Introduction to co-ordination chemistry. Coordination chemistry and related topics; physical methods, reaction mechanisms.

Chem. 211. *Advanced Analytical Chemistry* 3 credits

Theory and description of modern analytical techniques with emphasis on physico-chemical measurements, including the limitation of physical and chemical separation techniques, and rates and mechanisms of analytical reactions.

Chem. 213. *Electro-Analytic Chemistry* 3 credits

Theory and applications of potentiometry, polarography, amperometry, coulometry, and other analytical methods.

Chem. 214. *Applied Spectroscopy* 3 credits

The use of ultraviolet, visible spectroscopy, infrared spectroscopy, nuclear magnetic resonance spectroscopy and mass spectroscopy as tools for the identification of organic compounds. The course will include laboratory work using these instruments.

Chem. 218. *Analytical Methods* 1-2 credits

Laboratory practice with special analytical apparatus and methods used for process and control, and for research. (Lab course - Lab fee charged).

Chem. 221-222. *Advanced Organic Chemistry* 6 credits

A survey of synthetic and theoretical organic chemistry at an advanced level, with emphasis on stereochemistry and mechanism.

Chem. 223. *Theoretical Organic Chemistry* 3 credits

A study of the methodology of determining the relationship of structure to reactivity, the mechanisms of important reaction types and the factors that can influence rates and pathways. (Prerequisite: Chem. 222)

Chem. 224. *Heterocyclic Chemistry* 3 credits

An introductory survey of the structure and reactivity of important types of heterocyclic compounds. (Prerequisite: Chem. 222)

Chem. 228. *Organic Preparations* 1 credit

Laboratory performance of a number of typical organic syntheses, with an emphasis on the most modern techniques. (Lab course - Lab fee charged).

Chem. 233-234. *Biochemistry* 6 credits

Chemistry of carbohydrates, lipids, proteins and nucleic acids. Mechanisms and kinetics of enzyme action. A study of the metabolism, digestion and absorption of carbohydrates, lipids, amino acids and proteins.



Chem. 235. *Biophysical Chemistry* 3 credits

Topics to include transport phenomena (at both the cellular and the molecular level), optical, mechanical and electric properties of proteins, theory of liquids and solutions, mathematical models in biology, and radiation biophysics. Choice and depth of topics will vary with the interests and abilities of the class. Prerequisite: Chem. 245-246 or equivalent.

Chem. 236. *Biochemical Genetics* 3 credits

Principles and theories of heredity, with special emphasis on biochemical genetics, with their applications to the genetics of microorganisms and human heredity.

Chem. 237. *Enzymology* 3 credits

A course on the chemical nature of enzymes with relation to mechanisms of enzyme action and kinetics. Purification and identification of enzymes and isozymes. Biochemical and physiological aspects of enzymes in living systems.

Chem. 237.3. *Teaching of Chemistry* 3 credits

Use of modern methods in the teaching of Chemistry on a secondary level. Recent developments in the treatment of subject matter, including advances in laboratory techniques and demonstration methods. Review of concepts of research as they apply to Chemistry.

Chem. 238. *Biochemical Preparations* 1 credit

Application of modern theories to biological chemical methods. Spectroscopy, chromatography, polarimetry, electrophoresis, ionophoresis. Applied problems in biochemical research using modern biochemical methods. (Lab course - Lab fee charged).

Chem. 241. *Advanced Physical Chemistry I* 3 credits

Quantum mechanics and quantum chemistry, including ab initio approaches to classic problems, perturbational theory, variational theory, time-dependent phenomena and specific applications of molecular orbital theories to organic molecules. Generalized organics of molecules. Spectroscopic applications.

Chem. 242. *Advanced Physical Chemistry II* 3 credits

A comprehensive treatment of thermodynamics, including electrochemistry, thermochemistry and chemical equilibrium, together with an introductory consideration of the concepts of chemical kinetics. Some introduction to the concepts of statistical mechanics and their application to thermodynamics will also be given.

Chem. 245-246. *Intermediate Physical Chemistry* 6 credits

A review of the fundamentals of chemical principles, and a treatment of the mathematics requisite for such review. Two semesters—this course is offered for graduate credit in program "C" only.

Chem. 251. *Seminar* 1 credit

Chem. 252. *Introduction to Research* 1 credit

A thorough review of the literature of Chemistry in preparation for active laboratory research. The use of such sources as Chemical Abstracts, the Journal Literature, Patent Literature and "Beilstein's Handbuch" will be stressed.

Chem. 255. *M.A. Thesis* variable up to 6 credits

(Lab Fee Charged — \$10.00 per credit)

Chem. 257-258. *Chemistry on a Secondary Level* 6 credits

This course is treated on a Lecture-Seminar basis with respect to content and methods dealing with Chemistry in the secondary school curriculum. Two semesters. This is similar to N.S.F. course in Chemistry. Only 6 credits total from this series may be claimed for degree.

Chem. 261. *Polymer Chemistry* 3 credits

Introduction to the physico-chemical aspects of polymers: emphasis on structure, properties and application; thermodynamics of polymer solutions; statistical mechanical consideration of polymers; theories of rubber elasticity.

Chem. 263. *Agricultural Chemistry I* 3 credits

Physical and chemical properties of soil. Improvement of soil for the purpose of plant production by means of chemicals, microorganisms and wastes. Chemical synthesis in plants.

Chem. 264. *Agricultural Chemistry II* 3 credits

Biochemistry of plant growth and plant disease. The nature of pesticide action, growth stimulation and inhibition. Energy relations in the synthesis and production of living organisms. (Although Chem. 263 is not a prerequisite for Chem. 264, it is recommended that both courses be taken with Chem. 263 preceding Chem. 264).

Chem. 265. *Special Topics* 1 credit

A biochemical approach to chemistry to include the structure, function and mechanism of the action and control in normal and diseased states. The course is conducted on a seminar basis. Grading is administered on a Pass-Fail basis.

## **Department of Physics**

Dr. Eugene A. McGinnis, Chairman and Director of Graduate Program

### **DEPARTMENTAL REQUIREMENTS**

The applicant for admission must possess the Baccalaureate degree in Physics or a related field in Engineering. An overall quality point average of 2.5 is required with a 2.7 average in the Physics and Mathematics courses. The applicant will ordinarily be expected to have completed as an undergraduate at least 24 credits in Physics. Included in these courses should be at least three upper division courses in Mechanics, Electricity, Modern Physics or Optics. Besides the above requirements in Physics, the applicant is expected to have at least one Mathematics course beyond the Differential Equations, Advanced Calculus preferred. Students with limited course deficiencies in undergraduate preparation may be admitted with the approval of the Physics faculty but must correct such deficiencies concurrently with their initial graduate courses. Matriculation to candidacy in the Graduate School will be deferred until admission requirements have been successfully accomplished, and the applicant has successfully completed at least two courses in the Graduate Division.

### **COURSE REQUIREMENTS**

#### **A. Master of Arts in Physics**

Candidates for the degree of Master of Arts in Physics will be required to complete successfully 30 graduate credits and pass a comprehensive examination. Included in these 30 credits is a research dissertation for which a maximum of six credits may be allowed.

Physics courses 264 and 265 along with four courses from 268, 269, 260, 261, 278 and 279 will be ordinarily required of all candidates for this degree.

#### **B. Master of Science in Physics**

Candidates for the degree of Master of Science in Physics will be required to complete 30 graduate credits in approved courses and pass a comprehensive examination. Of these credits 18 to 24 must be in Physics and must include Physics 264 and 265. Six to twelve credits, if approved by the Physics department, may be followed in allied Science or Mathematics courses.

#### **C. Master of Science — Correlated Programs**

Candidates for the Master of Science degree in the program correlated with Education must complete 33 graduate credits and pass comprehensive examinations. Of these 33 credits, 15 will be required in Physics and 18 in graduate education. Students in this program will have mentors assigned from both the Physics and the Education departments to maintain a close liaison with both departments during their program of studies.

## Course Descriptions - Physics

Physics 252. *Mathematical Physics I* 3 credits

Determinants and Matrices. Fourier Series. La Place Transformations. Introduction to Partial Differential Equations and Boundary Value Problems. Special Functions of Physics including Bessel Functions, Legendre Polynomials, etc.

Physics 253. *Mathematical Physics II* 3 credits

Functions of a Complex Variable. Infinite Series in the Complex Plane. Theory of Residues. Conformal Mapping. Fourier and La Place Transforms. Advanced Partial Differential Equations. Boundary Value Problems in Physics. Green's Functions.

Physics 260. *Advanced Mechanics I* 3 credits

Lagrange's and Hamilton's equation for point objects. Hamilton's Principle and the Calculus of Variations. Two body central force motion. Linear vector transformations. Kinematics of rigid body motion. Corequisite: Physics 253.

Physics 261. *Advanced Mechanics II* 3 credits

Rigid body equations of motion. Special Theory of Relativity in the covariant four dimensional notation. Canonical transformations and the Hamilton-Jacobi theory. Theory of small oscillations. Prerequisite: Physics 260.

Physics 264. *Quantum Mechanics I* 3 credits

Basic postulates of Quantum Mechanics. The Schrodinger Wave Equation. Solution of the Wave Equation in One Dimension. The Harmonic Oscillator. Angular Momentum and Spin. Prerequisite: Physics 253.

Physics 265. *Quantum Mechanics II* 3 credits

Central Forces. The Hydrogen Atom. Matrix Representations and Transformations. Perturbation Theory. Many Body Problems. Identical Particles. Scattering. Prerequisite: Physics 264.

Physics 268. *Statistical Physics I* 3 credits

Interpretation of thermodynamics in terms of microscopic phenomena via kinetic theory and the statistics of Maxwell-Boltzmann, Fermi-Dirac, and Bose-Einstein. The application of both classical and quantum statistics to systems of non-interacting particles. Prerequisite: Physics 253.

Physics 269. *Statistical Physics II* 3 credits

Statistical mechanics of systems of interacting particles and other special topics. e.g. imperfect gases, liquids, ferromagnets, electrons in solids, transport equations. Prerequisite: Physics 268.

Physics 270. *Solid State Physics I* 3 credits

The crystal state of matter. Crystal conduction. Lattice energies and vibrations. Elastic constant. Ionic conduction. Properties of metal alloys. Free electron theory of metals. Metallic conduction. Band theory of solids. Conduction in solids. Corequisite: Physics 264.

- Physics 271. *Solid State Physics II* 3 credits  
Theory of semiconductors and semiconductor devices. Dielectric and optical properties of solids. Magnetic properties of solids, diamagnetism, paramagnetism, ferro-magnetism. Special topics. Prerequisite: Physics 270.
- Physics 274. *Advanced Electronics* 3 credits  
An extension of the basic electronic courses treating additional vacuum tube and transistor circuits and systems such as oscillators and signal generators, various special purpose circuits and basic analog and digital computer circuits and their operations. Prerequisite: Intermediate courses in Electronics.
- Physics 275: *High Frequency and Pulse Circuits* 3 credits  
Review of Electromagnetic wave theory. Transmission line and wave guide theory. Measurement of high frequency signals. Introduction to the circuit configurations used for the generation and processing of pulse, digital, and switching waveforms. Prerequisite: Intermediate course in Electronics.
- Physics 276. *Electronic Systems* 3 credits  
Applications of electronic circuitry in physical measurement. Pulse systems in nuclear measurements and in computers; servo-mechanical control system; feed back loops. Prerequisite: Intermediate course in Electronics.
- Physics 277. *Electronic Systems* 3 credits  
Vacuum tube and transistor circuits for instrumentation and measurement. Pulse counters; binary and decade scalars; forward and reverse counters. Vacuum tube and other high impedance voltmeter circuits. Integrating circuits; count rate meters. Coincidence circuits; switching circuits; Cathode ray display circuitry. Prerequisite: Intermediate course in Electronics.
- Physics 278. *Electromagnetic Theory I* 3 credits  
Electrostatics, Gauss's Law, Poisson and Laplace equations, Boundary value problems. Maxwell's equations. Prerequisite: Physics 253.
- Physics 279. *Electromagnetic Theory II* 3 credits  
Radiating systems. Special theory of relativity. Relativistic kinematics. Radiating charges. Special topics. Prerequisite: Physics 278.
- Physics 282. *Nuclear Physics I* 3 credits  
The study of nuclear models and force theories. Natural and induced radioactivity. Theory and measurement of alpha, beta, and gamma decay. Theory of the neutrino. Prerequisite: Intermediate course in Modern Physics.
- Physics 283. *Nuclear Physics II* 3 Credits  
Nuclear structure, nuclear spin, nuclear magnetic effects. Nuclear reactions with protons, alpha particles, and neutrons; induced radioactivity with neutrons, sources of neutrons, neutron detectors, nuclear fission. Prerequisite: Physics 282.
- Physics 284. *Introduction to Biophysics* 3 credits  
Topics include the theory of transport phenomena that are significant both in the living cell and in the physical characterization of bio-macromolecules, from the standpoint of statistical mechanics and non-equilibrium thermo-

dynamics. Molecular resonance phenomena and microscopic theories of pure liquids and solutions. Radiation in Biology. Prerequisite: Mathematics through Calculus.

Physics 290 and 291. *Experimental Methods* 3 credits

Experiments in optical spectroscopy, infrared spectrophotometry, nuclear magnetic resonance, laser optics, X-Ray diffraction, vacuum evaporation, Mossbauer effect, and beta and gamma ray spectrometry. Each student is expected to perform representative experiments in selected areas listed above and to pursue at least one area in depth in order to make some significant improvements or contributions to techniques. Students will make their own study of references to experimental methods and equipment under guidance and write a comprehensive paper in their work.

Physics 294 or 295. *Selected Topics for*

*Independent Study*

*3 credits*

Similar in scope to experimental methods except that student will investigate in depth the theoretical aspects of selected topics in Physics. A comprehensive paper on the topics investigated will be required of the student.

Physics 237.4. *Teaching of Physics*

*3 credits*

Use of modern methods and classroom aids in the teaching of Secondary School Physics. Accent on recent developments in the field of Physics. Introduction to some of the research tools used in Physics.

Physics 296 or 297. *Master's Thesis*

*Variable*

Based on theoretical or experimental research. Student subject to oral examination by Physics Staff members.

Physics 298 or 299. *Seminar*

*1 credit*

# **MASTER OF SCIENCE IN GENERAL SCIENCE**

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Dr. Eugene A. McGinnis, Director and Mentor for General Science

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## **DESCRIPTION OF PROGRAM**

The Master of Science degree in General Science is assumed to be a terminal degree. It is provided so that teachers at the elementary and junior high level will be able to update their science knowledge and thus be better able to handle the recently introduced curricula with its science content. For science teachers at the secondary level it provides an opportunity to become versed in more than one area of science and consequently enhance their teaching skills.

## **DIVISION REQUIREMENTS**

The applicant must, at the time of application, possess a baccalaureate degree, with an overall Quality Point Index of at least 2.5. The applicant will not be considered to be a candidate for the degree until he has successfully passed three of the core courses. No student may continue to take credits toward the degree until he has been notified of his acceptance as a candidate.

## **COURSE REQUIREMENTS**

### **A. Master of Science in General Science**

Candidates for the M.S. in General Science must successfully complete thirty (30) course credits. The core courses, of which, normally four are required, are: Science 201, 202, 203, 204, 205 and 206. Additional elective courses totaling twelve credits complete the program. These courses may be chosen, with the approval of the advisor, from any graduate or upper division undergraduate course offering in Biology, Chemistry, Physics, or Mathematics. A scholarly paper, with topic approved by mentor, is also required.

### **B. Master of Science in General Science - Correlated Program**

Candidates for the Master of Science degree in the program correlated with Education must complete 33 graduate credits. Of these 33 credits, 15 will be required in General Science and 18 in Graduate Education. Students in this program will have mentors assigned from both the Physics and the Education departments to maintain a close liaison with both departments during their program of studies. A scholarly paper, with topic approved by mentor, is also required.

# Course Descriptions - General Science

## COURSE DESCRIPTIONS

Sci. 201. *Introduction to Science* 3 credits

This course provides an overview of developments in Physical Science from the beginning to the latest developments in Nuclear Energy. It concerns itself not only with the historical aspects of this development, but also with the philosophical implications and socio-cultural effects.

Sci. 202. *Classical Physics and Its Relationship  
to the Space Age* 3 credits

Introduction to Newton's Laws, conservation of momentum and energy. Study of Rotational motion. History and development of space science. Study of harmonic motion and transfer of energy by waves. Probability and statistical concepts in Human affairs. Heat and Thermodynamics. Electricity and Magnetism.

Sci. 203. *Modern Physics and its Impact on Man's Progress* 3 credits

Theory of Relativity. Transition from determinism to indeterminism. Birth of Modern Physics. Bohr atom. Wave Mechanics. Radioactivity and the Atomic Nucleus. Overall effect of science on the progress of man.

Sci. 204. *Chemical Concepts and Their Significance in Life* 3 credits

Nature of chemical bonds and reactions. Chemistry of carbon as an organic basis for living organisms. Organic, inorganic, and Physical chemistry in relation to the origin and continuance of life. Significance of chemical principles in the interaction between living organisms and their environment. (Student experiments in appropriate teaching methodologies will be performed.)

Sci. 205. *Chemical Compounds as a Basis for Life* 3 credits

Biochemical production, function, and nature of the building blocks for the living cell. Chemistry of heredity and information systems. Energy conversions in the living cell. Biochemical aspects of the interaction between organisms, environment and drugs. (Student experiments in appropriate teaching methodologies will be performed.)

Sci. 206. *Biological Structure and Function of  
Living Organisms* 3 credits

Molecular, psychological and morphological levels of organization. Differentiation, division and growth of cells. Biological and psychological aspects of genetics, reproduction and ecology. (Student experiments in appropriate teaching methodologies will be performed.)



Sci. 207. *Geology* 3 credits

The earth: its structure, composition, and agents of construction and destruction. Evolution of the earth and the development of life upon it. Identification of rocks and minerals. Interpretation of topographic and geologic ages.

Sci. 208. *Astronomy* 3 credits

Survey of solar systems, stars and galaxies. Observational basis of Astronomy. Discussion of artificial satellites and space vehicles as a modern method of obtaining scientific information. Opportunity for astronomical observation will be provided.

Sci. 209. *Meteorology* 3 credits

Study of the atmosphere and the principles associated with Atmospheric changes. Methods for observing and recording weather data. Reading and interpreting weather maps.

Sci. 210. *Science and the Human Environment* 3 credits

The effects of the technological, scientific and industrial progress on air, land and water resources of the human environment will be studied. Problems in each of the resource areas will be discussed in detail. Lecture-Demonstration.

Sci. 212. *The Chemistry and Action of Drugs* 3 credits

Introductory study of physiological and psychological effect of commonly used drugs on humans. Drug action in relation to molecular biological structure and function.

## UNIVERSITY OF SCRANTON THE GRADUATE FACULTY

- Harry B. Strickland (1963)  
Associate Professor of Business  
Administration (1968)  
B.S., St. Vincent's College;  
M.L., Ph.D., University of Pittsburgh
- Donald L. Angell (1969)  
Associate Professor of Human  
Resources (1973)  
B.S., Ithaca College; M.S., University  
of Oregon; Ph.D., University of Illinois
- Martin D. Appleton (1955)  
Professor of Chemistry (1964)  
Chairman, Department of  
Chemistry (1975)  
B.S., University of Scranton;  
M.S., Ph.D., Pennsylvania State  
University
- Carl P. Barone (1970)  
Associate Professor of Counselor  
Education (1973)  
Chairman, Department of  
Education (1974)  
B.A., M.A., Colorado State College;  
M.A., University of Wisconsin;  
Ph.D., Ohio University
- John A. Beidler (1964)  
Associate Professor (1967)  
Chairman, Department of  
Mathematics/Computer (1972)  
A.B., King's College;  
M.A. Lehigh University;  
Ph.D., Pennsylvania State University
- Mrigen Bose (1968)  
Assistant Professor of Business  
Administration  
B.S., Patna University;  
M.S., University of Kentucky;  
Ph.D., University of Utah
- Frank C. Brown, D. Et U.\* (1939)  
Professor of History (1974)  
A.B., University of Scranton;  
M.A., Columbia University
- Charles J. Buckley, D. Et U\* (1947)  
Associate Professor of Business  
Administration (1968)  
Dean of the Evening College (1963)  
B.S., University of Scranton;  
M.B.A., Doctoral Studies,  
New York University
- Joseph M. Cannon (1959)  
Professor of Counselor Education (1974)  
B.S., University of Scranton;  
M.Ed., Doctoral Studies, Pennsylvania  
State University; Licensed Psychologist
- Ellen M. Casey (1969)  
Associate Professor of English (1974)  
B.S., Loyola of Chicago;  
M.A., University of Iowa;  
Ph.D., University of Wisconsin
- James J. Cunningham (1968)  
Associate Professor of Counselor  
Education (1971)  
A.B., King's College;  
Ed.M., Ed. D., Rutgers University;  
Certified Psychologist
- Francis H. Curtis (1966)  
Assistant Professor of Education (1966)  
B.S., M.Ed., Doctoral Studies,  
Pennsylvania State University
- Vito Del Vecchio (1969)  
Associate Professor of Biology (1973)  
B.S., University of Scranton;  
M.S., St. John's University;  
Ph.D., Hahneman Medical College  
Graduate School
- Michael D. DeMichele (1967)  
Professor of History (1974)  
B.S., University of Scranton; M.A.,  
Ph.D., Pennsylvania State University
- Anthony J. DiStefano (1968)  
Assistant Professor of Physics (1968)  
B.E.E., Brooklyn Polytechnic Institute;  
M.A., Columbia University; Cand.  
Ph.D., Stevens Institute of Technology
- Joseph C. Dougherty (1967)  
Professor of History (1967)  
B.A., St. Charles;  
M.A., Ph.D., Georgetown University
- John J. Dunstone (1966)  
Professor of Psychology (1974)  
Chairman, Department of  
Psychology (1972)  
B.S., Pennsylvania State University;  
M.S., Ph.D., University of Massachusetts
- John L. Earl, III (1964)  
Professor of History (1972)  
B.S., M.A., Villanova University;  
Ph.D., Georgetown University

- Joseph T. Evans, D. Et U. (1953)  
 Professor (1965)  
 Chairman, Department of Biology  
 (1969; 1972)  
 B.S., University of Scranton;  
 M.S., Ph.D., The Catholic University  
 of America
- Paul F. Fahey (1968)  
 Associate Professor of Physics (1973)  
 B.S., University of Scranton;  
 M.S., Ph.D., University of Virginia
- Matthew C. Farrell (1967)  
 Associate Professor of Education (1972)  
 B.A., M.S., University of Scranton;  
 Ph.D., Fordham University
- John Q. Feller (1969)  
 Associate Professor of History (1972)  
 A.B., Loyola College;  
 M.A., Ph.D., Catholic University
- Joseph A. Fusaro (1974)  
 Assistant Professor of Education (1974)  
 B.A., Rider College; M.Ed., University  
 of Vermont; Ed.D., State University  
 of New York at Albany
- A. John Giunta (1960)  
 Professor of Business  
 Administration (1967)  
 B.S., Harpur College;  
 M.S., Ph.D., Syracuse University
- Leonard G. Gougeon (1974)  
 Assistant Professor of English (1974)  
 B.A., St. Mary's University, Halifax;  
 M.A., Ph.D., University of Massachusetts
- Ralph W. Grambo (1973)  
 Assistant Professor of Business  
 Administration (1973)  
 B.S., University of Scranton; M.B.A.,  
 Ph.D., University of Pennsylvania
- Walter Haab (1960)  
 Professor of Chemistry (1968)  
 B.S., Swiss Federal Institute of  
 Technology; M.S., University of Alberta;  
 Ph.D., University of California
- Maurice I. Hart, Jr. (1963)  
 Professor of Chemistry (1971)  
 A.B., Maryknoll College;  
 M.S., Ph.D., Fordham University
- Daniel J. Houlihan, D. Et U.\* (1947)  
 Professor of Business  
 Administration (1969)  
 B.S., University of Scranton;  
 M.S., Columbia University;  
 J.D., Temple University
- Riaz Hussain (1967)  
 Associate Professor of Physics (1974)  
 B.S., Forman College;  
 M.S., University of Panjab;  
 Ph.D., Johns Hopkins University
- Bernard J. Johns (1961)  
 Assistant Professor of  
 Mathematics (1968)  
 A.B., Wilkes College; M.A., Bucknell  
 University; Doctoral Studies,  
 University of Illinois
- Francis X. Jordan (1966)  
 Assistant Professor of English (1968)  
 A.B., M.A., University of Scranton;  
 Ph. D., St. Louis University
- John R. Kalafut (1965)  
 Professor of Physics (1974)  
 B.S., University of Sedanton;  
 M.S., Doctoral Studies, University  
 of Delaware
- Raymond L. Kimble (1973)  
 Associate Professor of Reading (1973)  
 B.S., Mansfield State College;  
 M.S., State University of New York,  
 Cortland; Ed. D., Arizona State  
 University
- Michael Marino (1965)  
 Professor of Education (1970)  
 B.S., M.S., Brockport State College;  
 Ed.D., University of Buffalo
- Eugene J. McGinnis, D. Et U.\* (1948)  
 Professor (1965); Chairman,  
 Department of Physics (1967)  
 B.S., University of Scranton;  
 M.S., New York University;  
 Ph.D., Fordham University
- John M. McInerney (1966)  
 Associate Professor of English (1971)  
 Chairman, Department of English (1975)  
 A.B., LeMoyne College; M.A.,  
 Ph.D., Loyola University of Chicago
- John P. McLean, D. Et U.\* (1940)  
 Professor of Business  
 Administration (1972)  
 B.S., University of Scranton
- Louis D. Mitchell (1961)  
 Professor of English (1968)  
 B.A., M.A., Fordham University;  
 Ph.D., New York University
- Francis J. Murray (1965)  
 Assistant Professor of Physics (1968)  
 B.S., Iona College;  
 M.A., St. John's University;  
 Ph.D., New York University

- John J. Murray (1957)  
Professor of English (1968)  
B.S., University of Scranton; M.A.,  
The Catholic University of America;  
Ph.D., New York University
- John J. O'Malley, Jr. (1968)  
Associate Professor of Psychology (1971)  
B.S., University of Scranton;  
M.S., Ph.D., Ohio University
- Matthew R. O'Rourke (1955)  
Professor of English (1974)  
A.B., M.A., Rutgers University
- Peter P. Poole (1966)  
Assistant Professor of Business  
Administration (1966)  
B.S., M.B.A., Northeastern University;  
Doctoral Studies, New York University
- John J. Quinn, S.J. (1956)  
Professor of English (1968) (1975)  
A.B., Holy Cross College; M.A.,  
Fordham University; S.T.B., Woodstock  
College; Ph.L., Weston College;  
Ph.D., University of London
- William W. Rakauskas (1969)  
Associate Professor, Department of  
English (1969)  
B.S., M.A., University of Scranton;  
Ed.D., Temple University
- Stephen P. Ryan (1960)  
Professor of English (1960)  
A.B., St. Joseph's College;  
M.A., University of Pennsylvania;  
M.A., Ph.D., University College,  
Dublin, National University of Ireland
- Robert A. Sallavanti (1969)  
Associate Professor of Chemistry (1972)  
B.S., Wilkes College;  
Ph.D., University of Pennsylvania
- Timothy H. Scully, D. Et U.\* (1948)  
Professor of History (1975)  
Chairman, Department of History (1970)  
B.S., M.A., Boston College; Doctoral  
Studies, Fordham University
- John K. Stout (1966)  
Associate Professor of Human  
Resources (1974)  
B.S., M.S., Ed.D., Pennsylvania State  
University
- Gokaran Nath Srivastava (1967)  
Professor of Physics (1967)  
A.B., M.A., University of Lucknow;  
Ph.D., University of Toronto, Canada
- Joseph A. Szuhay (1964)  
Professor (1974); Chairman,  
Department of Human Resources (1974)  
B.S., M.S., Ph.D., University of Iowa
- Charles E. Taylor (1974)  
Assistant Professor of Computer  
Science (1974)  
B.S., M.B.A., West Virginia University
- Charles J. Thoman, S.J., (1953-1955; 1966)  
Professor of Chemistry (1973)  
B.S., Spring Hill College;  
M.S., Fordham University;  
S.T.L., Woodstock College;  
Ph.D., University of Massachusetts
- Carleton B. Upright (1970)  
Associate Professor of Education (1970)  
B.S., Albany State College;  
M.A., Ed.D., New York University
- Joseph A. Vinson (1974)  
Assistant Professor of Chemistry (1974)  
B.S., University of California, Berkely;  
M.S., Ph.D., Iowa State University
- William P. Zahler, Jr. (1973)  
Assistant Professor of English (1973)  
A.B., Ohio Wesleyan University;  
M.S., Syracuse University;  
M.A., Ph.D., Kent State University
- Joseph R. Zandarski, D. Et U.\* (1954)  
Professor (1971); Chairman, Department  
of Business Administration (1969; 1972)  
B.S., University of Scranton;  
M.B.A., New York University;  
Ph.D., University of Pittsburgh

\*Pro Deo et Universitate Award of Vicennial Service

## AFFILIATED FACULTY

Cliford E. Balshaw  
Assistant Professor of Music  
Guilmant Organ School; Fellow of  
American Guild of Organists

Robert B. Koslosky  
Lecturer in Art Education  
B.S., Kutztown State College;  
M.Ed., Kutztown State College

Ferdinand Liva  
Assistant Professor of Music  
Juilliard School of Music; Conductor  
of Niagara Falls Symphony and  
Wilkes-Barre Philharmonic Orchestra;  
Dottore, honoris causa, Università  
dei Terroni, Terroni, Italy

Sister Mary Carmel McGarigle, R.S.M.  
Assistant Professor of Music  
B.Mus., College Misericordia;  
Pius X School of Liturgical Music;  
M.M., De Paul University;  
Graduate Study, Columbia University

Sister Mary Dorothy McLaughlin, R.S.M.  
Professor of Art  
B.A., College Misericordia;  
M.A., University of Notre Dame;  
D.Ed., University of Pittsburgh

Sister Marie Dolores Moore, R.S.M.  
Assistant Professor of Music  
B.Mus., College Misericordia;  
M.M., De Paul University;  
Ph.D., University of Rochester;  
Foreign Study: Université de Paris,  
Ecole Normale et Musique

Sister Susan Marie Nowalis, R.S.M.  
Assistant Professor of Music  
B.Mus., College Misericordia;  
M.M., Eastman School of Music;  
Ph.D. candidate, Case Western  
Reserve University

Betty Ann W. Porzuczek  
Assistant Professor of Music  
B.Mus., University of Iowa;  
M.M., University of Iowa;  
Ph.D. candidate, University of Iowa

## PROFESSORIAL LECTURERS

John A. Antognoli  
Lecturer in Rehabilitation Counseling  
B.S., M.S., University of Scranton

Michael J. Aronica  
Lecturer in Rehabilitation Counseling  
B.S., University of Scranton;  
M.D., Jefferso Medical College

Arnold F. Campo  
Lecturer in Business Administration  
Ph.B., University of Santa Clara

Robert L. Clarke  
Lecturer in Educational Administration  
B.A., King's College; M.A., Seton Hall;  
Cand. Ed.D., University of Pennsylvania

Robert L. Fisher  
Lecturer in Educational Administration  
B.S., Kutztown State College;  
M.A., Lehigh University

Arthur R. Goerlitz (1973)  
Lecturer in Educational Administration  
B.S., University of Scranton;  
M.S., Bucknell University;  
Ed.D., Pennsylvania State University

Hope Horn  
Lecturer in Art Education  
B.S., Temple University;  
M.D.A., Tyler School of Art,  
Temple University

Madeline D. Leo  
Lecturer in Counseling Education  
B.A., Marywood College;  
M.S., University of Scranton;  
Doctoral Studies, University of Ottawa

Peter M. Mensky  
Lecturer in Educational Administration  
B.A., University of Scranton;  
M.A., Bucknell University; Ed.D.,  
The Pennsylvania State University

William J. Murray, D. Et U.\*  
Lecturer in Science Education  
B.S., M.A., University of Scranton

Paul Perch  
Lecturer in Rehabilitation Counseling  
B.S., M.Ed., Ed.D., Pennsylvania State  
University; Certified Psychologist

Richard T. Rees  
Lecturer in Educational Administration  
B.S., Wilkes College;  
M.Ed., Rutgers University;  
Ed.D., Rutgers University

John J. Roman  
Lecturer in Elementary Education  
B.S., University of Miami;  
M.S., University of Scranton;  
Cand. Ed.D., Temple University

Percival R. Roberts III  
Lecturer in Art Education  
M.A., University of Delaware;  
Ed.D., Illinois State University;  
Litt. D. (Hon.) L'Libre University, Asia

Robert H. Sayers  
Lecturer in Business Administration  
B.A., The Pennsylvania State University;  
J.D., American University

Philip H. Siegel  
Lecturer in Business Administration  
A.B., Wilkes College; M.B.A., University  
of Cincinnati; Ph.D., New York  
University

George Strohl  
Lecturer in Rehabilitation Counseling  
B.A., Gannon College; M.S., University  
of Scranton; M.S., Columbia University

Michael J. Vanaskie  
Lecturer in Counseling Education  
B.S., M.S., University of Scranton;  
Cand. Ph.D., University of Utah









# *The University of Scranton*

offers Graduate programs in the following areas:

- ART EDUCATION
- MUSIC EDUCATION
- BUSINESS ADMINISTRATION
- ENGLISH (Thesis and Non-thesis)
- AMERICAN HISTORY & POLITICS
- HISTORY (Thesis and Non-thesis)
- CHEMISTRY
- PHYSICS
- GENERAL SCIENCE
- ELEMENTARY EDUCATION
- SECONDARY EDUCATION
- ELEMENTARY SCHOOL ADMINISTRATION
- SECONDARY SCHOOL ADMINISTRATION
- READING
- REHABILITATION COUNSELING
- COUNSELOR EDUCATION
- VOCATIONAL ADJUSTMENT

A variety of Correlated Programs are also available in Secondary Education.

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UNIVERSITY OF SCRANTON  
Scranton, Pennsylvania 18506

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